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THESIS

COMMERCIAL ACTIVITY AT THE PORT OF BOSTON

by

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PREFACE

The attempt made in writing this thesis has been merely to compile the existing material with reference to the commercial activity at the Port of Boston and to present a few of the major difficulties to be overcome before this port can be utilized to the full extent of its natural advantages.

It has seemed best, while not ignoring the earlier period of commercial activity at the port, to subordinate matters that have only historical interest. Material on the subject is so abundant that it has necessitated careful selection. Exhaustive treatment of certain phases covered would extend unreasonably the size and scope of this work.

It is hoped, however, that no really essential information has been overlooked.

Arthur Randolph Carson

Boston,
March 1, 1934.

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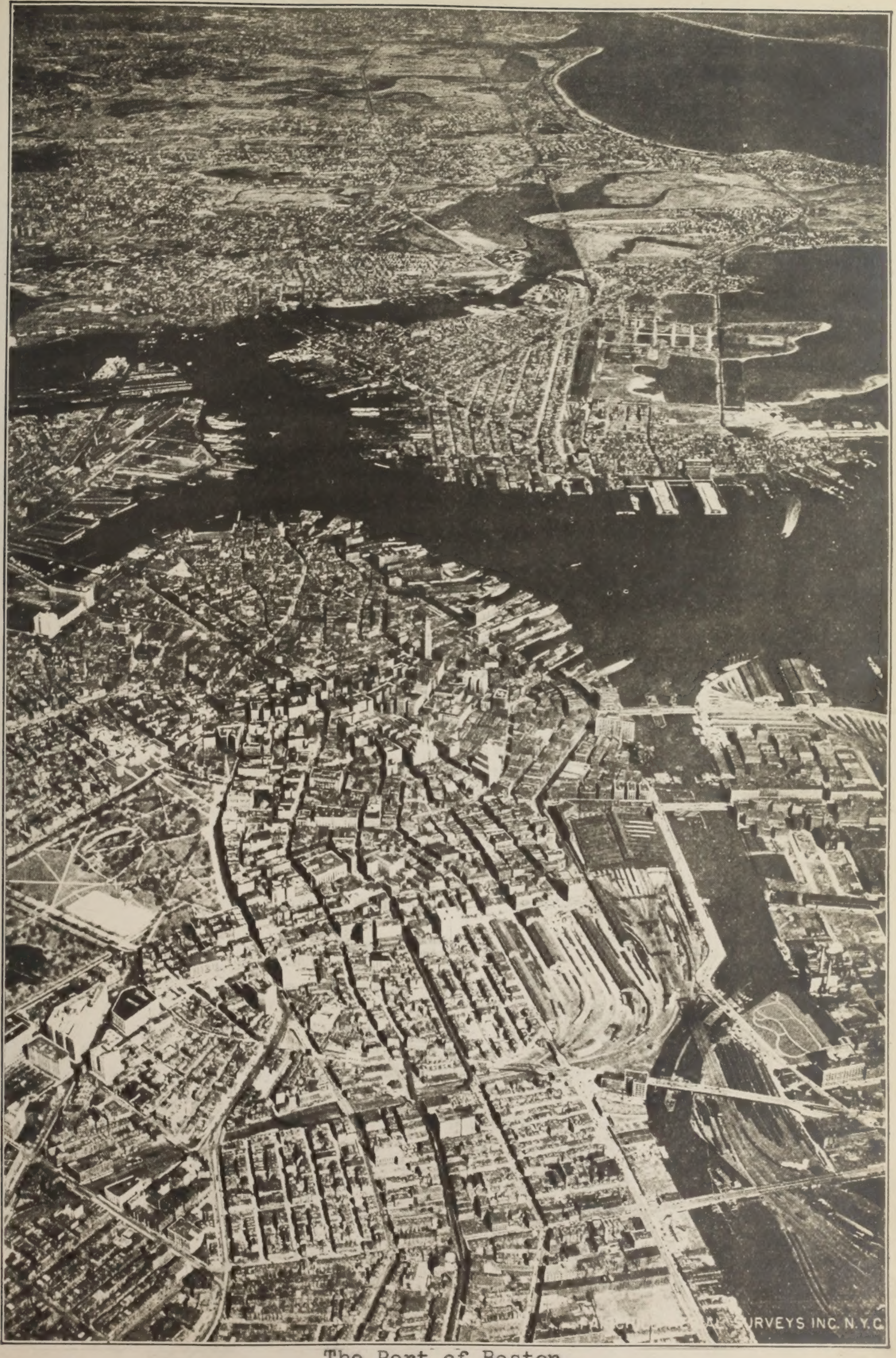

The Port of Boston

CHAPTER I

RISE OF BOSTON TO PROMINENCE AS A COMMERCIAL SEAPORT

A. Factors that influenced early development of commerce at the port.

Geographical location. - Located in Massachusetts, and on the New England coast, with its wealth of coast-line and abundance of good harbors, Boston enjoyed no natural advantage over other seaports on the Atlantic.

There is no great river comparable to the St. Lawrence, the Hudson, or the Delaware to tap the wealth of a vast interior. Cape Breton and Newfoundland are nearer the Grand Banks, and many-harbored Maine offers better anchorage. Chesapeake Bay is more deeply indented, more centrally placed, and more richly supplied with agricultural wealth. The back country, limited by a political frontier on the north and a mountain barrier in the Berkshires, produced no staple to compare with those of the middle and southern colonies. Boston is two-hundred miles nearer northern Europe than New York is; but Nova Scotia is nearer still.

In spite of the apparent disadvantage of location as compared with other seaports on the Atlantic coast, Boston became the most prominent commercial port in America during the early history of the country.

Characteristics of the harbor. - The approaches to Boston Harbor were unsurpassed by those of any ports in the

Western world, and convenient and safe at all stages of tide for the largest vessels to enter and find shelter in good anchorage ground. No other harbor known to commerce was capable of affording equal facilities, due to its natural layout, as the main inner basin of Boston Harbor. What is often sought for in vain by the building of breakwaters and seawalls was already realized in Boston by the chains of islands which served to shelter vessels from wind and sea.

Before the close of the seventeenth century, business men saw that Boston's situation gave it a great advantage as a gateway to the sea. At that time there were sixty-three wharves in Boston and fourteen in Charlestown. To provide further for accomodation at the port they began systematic construction of other wharves and docks. Long Wharf, built in 1710, extended 1800 feet and had seventy-six warehouses. The principal navigation of the town was carried on there. Central Wharf, 1379 feet long, and completed in 1819, with fifty-four brick stores running down the center for a quarter of a mile, was a fitting companion to India Wharf, 980 feet in length, which had been erected in the meantime. In its upper stories there were large halls for auction sales, and below, as on India Wharf, were warehouses, wholesale stores, and offices of the leading mercantile firms of the day.

Commercial spirit of the merchants of Boston. - The people of New England, meaning those living on the coast and at the seaports, of whom the merchants of Boston were representatives and factors, were under the influence of a

commercial instinct by which they became a shipowning and commercial community that reached a high state of development in the eighteenth, and during the first half of the nineteenth centuries.

The foreign commerce of those days required not only large capital for its successful prosecution, but general ability of high order, comprehensive and authentic information, shrewd and sound judgment; and bold enterprise had to be brought together in combination, when voyages were planned which were to compass the globe, and prolonged perhaps for two or three years. This same old commercial spirit helped to keep Boston abreast of modern improvements, provided harbor and railroad facilities, built larger and faster vessels, and established packet lines.

The merchants of Boston possessed all the requisite qualities for such purposes; but as time went on and their operations multiplied and extended, serious complications arose which were beyond their control. They resented and even nullified oppressive legislation intended to restrain and restrict their enterprise; and they refused to forego any right or opportunity to share in the profits of trading voyages. They knew that to own and employ ships is vastly more remunerative than merely to construct them, and they persisted in using a considerable portion of the shipping built here for their own benefit.

B. Early commerce of Boston.

Factors that hindered progress. - While Massachusetts

was a colony of England the commerce of Boston was seriously affected by legislation of the mother country as the prevalent thought there was that the colonists should live and labor with supreme and constant reference to her commercial interests rather than to their own.

Trade routes and commodities carried. - Fishing and shipping were the key industries of the colony. It has been said that "Puritan Massachusetts derived her ideals from a sacred book; her wealth and power from the sacred cod."[1] Fishing would have brought little wealth had Massachusetts depended on outside interests for vessels. It was distribution, not production that brought the big returns.

The craftsmen of Boston became well skilled in the building of ships as early as 1631. Naval stores were abundant and the cost of turning out first-class sailing vessels in and near Boston was far below that of Europe. Before long, England became an excellent customer for these ships.

The business men of the future port established communication early with places beyond the limits of the colony when the first trading vessel visited the Dutch Settlement at the mouth of the Hudson, and bartered some beaver for other commodities. A few years later, exports of cured fish, furs and lumber bought articles of convenience

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[1] Morison, S.E., "The Maritime History of Massachusetts, 1783-1860," Houghton Mifflin Company, Boston and New York, 1921, p. 14.

in England; and ten thousand bushels of corn were imported that year from Virginia.

> "Another step in advance was taken in the development of the commerce of Boston when a vessel brought wines, pitch, sugar and ginger from Teneriffe in exchange for corn; and another yet when a ship from Boston carried freight to Bilbao, and returned from Malaga, in the spring of 1644, laden with wine, fruit, oil, iron and wool, which gave great encouragement to trade. A year later Boston fishing vessels ventured as far as the Banks of Newfoundland." [1]

Trade with the West Indies sprang up. Boston vessels carried to those regions dried fish to feed the slaves, agricultural products and barrels for sugar. They brought back not only cargoes of molasses, which led to a thriving rum industry in New England, but also an increasing volume of credit in the form of drafts on London which the West Indian sugar growers exchanged for Boston merchandise. These drafts in turn were used for the purchase of such English manufactured products as were necessary to the colony.

The Navigation Act of 1660, which prohibited imports into England except in English ships, would have worked most injuriously against Boston's commerce if the people had adhered to the law rigidly, but it was a dead letter as far as they were concerned.

Boston's trade was seriously threatened by an Act of Parliament, passed in 1733, imposing duties on molasses, sugar

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[1] Hill, H.A., "The Trade and Commerce of Boston, 1630-1890," Boston, Massachusetts, 1895, p. 22.

and rum imported here from any West India islands other than British. This tax was never really paid and the interdicted trade with these French, Dutch and Spanish islands did not cease until a late period of the controversy which terminated in the revolution.

The annual production of rum distilled in Boston from molasses brought in from all parts of the West Indies was sufficient to supply the consumption in the colonies in North America, that of the Indian trade, the vast demands of the Newfoundland fisheries, and in great measure, that of the African trade.[1]

The West India trade was destroyed by a British Order in Council published in 1783, which forbade the colonists to carry fish there. The order was aimed at American fisheries, and was to encourage those of Nova Scotia and Newfoundland.

In 1765, England became more rigorous in her attempts to enforce the law and passed the Stamp Act, but the people refused to use the stamps. The principal merchants of Boston agreed to import no more goods from England unless the act should be repealed; and it came about within a year from the time it became a law, with one exception -- tea. For the time being commercial prosperity at the port seemed to have returned.

As an aftermath of the "Boston Tea Party", steps were

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[1] Hill, _op_. _cit_., p. 43.

taken to punish the people of Boston by the passage of the Port Bill in June 1774, which closed the port to navigation with the exception of certain necessities of life.

> "It was an overwhelming blow to the inhabitants, nearly all of whom lived in one way or another by ocean commerce. Even in 1772, when its shipping interests were already much crippled, five hundred and eighty-seven vessels were entered at its custom-house, and four hundred and eleven were cleared; that meant about one thousand arrivals and departures from and to foreign ports. All eyes were fixed on Boston, once the seat of commerce and plenty. Its port was closed; its wharves were deserted; its commerce was paralyzed; and its shops were shut. Many were reduced from affluence to poverty."[1]

During the Revolutionary War the commerce of Boston was carried on by other Massachusetts ports, Salem in particular. There was a subsequent falling off in the supply of products suitable for shipment across the Atlantic, caused in great part by the diversion of men from their customary industries in field and forest, and on the sea, to pursuits of war, and the evil could not be remedied immediately. For a short period thereafter almost free trade prevailed. Merchandise of every description arrived from abroad in large quantities and prices fell rapidly.

The merchants of Boston did not allow themselves to be discouraged by the annoyances and hindrances to which they were subjected. They not only did not propose to abandon to their rivals the trade of the Atlantic; they determined to participate in the commerce of more distant seas.

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[1] Hill, *op. cit.*, p. 64.

September 1787, marked the beginning of a trade in furs between Boston, the Northwest coast and China, which increased steadily in volume up to the time of the War of 1812. This trade was resumed in 1815 but was not so profitable as before due to serious competition with other fur-trading sections of this country as well as those in Russia, who threatened to monopolize all. By 1837 the old Northwest fur trade was a thing of the past.

The merchants were strong for Federalism, consequently they were anxious for the prompt adoption of the Constitution by Massachusetts. New England Federalism became at once a political system, and a point of view. It believed that the main object of government was to protect property, especially commercial and shipping property. When Federalism turned into dominant Republicanism, by 1825, it marked the end of free trade and the merchants could no longer obtain special favors for their class.

During the Napoleonic era when England and France were trying to destroy each other's commerce, Boston merchants and shipowners made the most of their opportunity to increase their activity, although they frequently found themselves involved to their constant annoyance, and often to their very great loss.

Oppressive orders in council followed which resulted in an embargo in 1812 on all ships and vessels within the limits or jurisdiction of the United States. Shipbuilding was suspended, the ships lay idle at the wharves, and the

fisheries were abandoned. Complaints were made against the measure by the Boston merchants as being partial and unjust, and it was modified two years later with a resulting increase in commercial activity at the port.

Boston was very much opposed to war in 1812; and it had a depressing effect on its commerce. The vessels that were at home were generally dismantled and hauled up, except such as were suitable for privateers.

However, Boston soon began to recover itself from the effects of the war. The business men had maintained their credit during the war, and in the trying years that preceded it, so they were in a favorable position to take advantage of the improved condition of affairs which came with the restoration of peace.

An export trade in ice was started about this time with the first prominent and permanent establishment of ice-houses in the West Indies at Kingston. Soon after the monopoly was secured for Havana in Cuba; and by 1820 ice was shipped to Savannah and New Orleans. Thirteen years later a cargo was sent from this port to Calcutta, and a regular trade followed which increased steadily in volume and importance thereby enabling Boston to hold the key to a rich and extensive commerce between these countries for many years. The total export of ice from Boston, foreign and coastwise, was about 142,463 tons in 1860, and this was the highest point reached.[1]

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[1] Hill, op. cit., p. 130.

Before the Civil War about seventy-five per cent of the goods imported from Calcutta was shipped again coastwise, and upon this freight money was earned by these shipowners a second time.

Long before 1815, Boston vessels went to South American ports. Sheetings were made for the South American trade before 1824, and by 1850 that continent was taking over three-fourths of the total export of "domestics" from Boston. In return there was an excellent market in Boston for wool, hair, hides, sheepskins and tallow until a protective tariff system was applied to favor American ranches. South America was the great source of supply of hides for Massachusetts tanpits and shoe shops.

A considerable coffee trade was built up with Brazil by 1843. In this, as in most branches of South American trade, excepting Valparaiso, Boston was surpassed by other Atlantic ports of the United States.

> "As a feeder to New England's leading industry, as an outlet for her products, and as an earning trade, this intercourse with South America became one of the most important branches of Boston Commerce. It was similar to and largely replaced the West Indies trade of colonial days; with the important difference that it fed loom and shoe factories instead of slave coffles and distilleries."[1]

Trade with Russia began in 1784, but it was several years before it assumed large proportions. In 1822 thirty-eight vessels left Boston bound either to St. Petersburg, Copenhagen, Stockholm or other Baltic ports. Among the

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[1] Morison, op. cit., p. 271.

articles imported from these places were oakum or tarred hemp, cordage, bolt-rope, codilla, occasionally flax and flax tow, sail cloth, bar-iron, sheet-iron, feathers, hair of animals, occasionally red leather and China rhubarb. The trade continued to be large and profitable until 1861; from then on, the development of native industry in Russia and the adoption of a protective policy there as well as here, nearly destroyed it. Boston merchants participated in this trade to a large extent when it was at its best.

Other outposts of Boston traders were founded in the South Seas, at Honolulu about 1819, where liquors, carriages and harnesses, clothes and furniture, boats and vessels were sold for sandalwood which was resold in Canton. This traffic continued for ten years until sandalwood became a drug on the market, and all but extinct on the islands.

Hawaii, by 1830, had become the basis of a trade by Boston merchants established there with California, Canton, and the smaller South Pacific islands. Among the products taken to these islands was codfish, lumber, rice, Lowell and Amoskeag cottons, German glass, iron safes, needles and thread, drugs and gravestones, blankets, salt provisions, groceries and leather goods.[1] Honolulu furnished valuable return cargoes in the form of oil and bone, together with bullock hides and goatskins.

When the Northwest fur trade died out, its place was

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[1] Morison, op. cit., p. 265-6.

taken by the California hide trade that had its beginning in 1822. It was the low price of these hides that made it profitable to send around the Horn for them. From that time until the war with Mexico, Californians obtained most of their merchandise from Boston Pacific Coast traders, and for their return cargoes took the bulk of California's hides to New England shoe shops. This trade reached its height between 1834 and 1836.

In 1810, and again between 1840 and 1850, the coastwise trade at the port became very large. Supplies of cotton for the mills of New England, and products of the Southwest, such as provisions and lard, came by sea. In return, domestic dry goods, boats, shoes, furniture and woodenware, were shipped to Southern ports in large quantities.

Commercial activity at the port of Boston was greatly stimulated during the clipper ship era due to the growing wealth and population of the country; repeal of the Navigation Acts, which thereby opened the British market to products of New England; and increased passenger traffic created by the discovery of gold in California, Australia, and Africa. Clearances at this port for those countries were: in 1853, 149; in 1854, 59; in 1855, 16; in 1856, 54; in 1857, 47.[1] At the same time the China market was prospering and competition for this trade between firms in Boston, New York and Britain, was keen.

The high-water mark of Boston's rise to prominence as

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[1] Hill, *op. cit.*, p. 148.

a commercial seaport was reached about 1856; thereafter its foreign trade began to decline.

C. Importance of early distributing agencies.

Railroads. - In about 1828 it was noticed that trade was being diverted from Boston by New York steamers which made daily voyages to Providence, to the Connecticut River, and to New Haven.

> "The western part of the State was trading through the Hudson River. Western Massachusetts was so estranged from Boston commercially that no trader had visited the city from the Berkshires for many years....Massachusetts had built good roads to help travel and freight, but still Boston was falling behind in its commerce and shipping. She must have railroads or be side-tracked."[1]

At that time the only railroad in America was the Quincy Granite Railway, a short gravity tramway connecting the granite quarries with the tidewater. Further progress was delayed for several years, but by 1841 railroads spread fanwise from Boston to Salem and Portsmouth, New Hampshire, to Lowell and other manufacturing centers, to Providence and to Albany. The Western Railroad, Boston's single connection with the West, was badly managed, and sent very little freight through to its wharves until after the Civil War, when the first grain elevator was erected on the harbor front with a capacity which afterwards increased to a million bushels. But other railroads, with water-front termini at Boston, and a belt-line connecting all with each other and the wharves, distributed incoming cargoes to inland points and brought

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[1] Boston Evening Transcript, July 24, 1930.

miscellaneous products of farm and forest, home workshop and factory, to Boston wharves.

Packets.- More important than the railroads as a distributing agency were the sail and steam packets. Every tidewater village between Eastport and Provincetown, and many beyond, had a sailing packet plying to Boston.

When the Boston and Liverpool Steam Packet Company was projected in 1822, the object stated was: "....To secure, by regular and punctual departures from both ports, more frequent supplies of goods, and the convenience for passengers."[1]

Business men were not successful in incorporating the proposed line until a third attempt was made in 1827. They considered it important to maintain regular communication with England, especially in view of the circumstances that one or more English lines of steam packets ran regularly from New York. Little is known about this line of Liverpool packets, but there is every reason to believe that the enterprise was not a success.

When Enoch Train started his celebrated line of Liverpool sailing packets from Boston in 1844, it was thought at first that it was an unwise move due to the competition it might give to Boston's newly established Cunard Steamship Line, and perhaps result in the latter's withdrawal of service to this port. But the fact was that the sailing packets could accomodate only a small quantity of cargo, and that this

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[1] Hill, op. cit., p. 120.

was subject to a high rate of freight. Instead of interfering with the transportation of ordinary merchandise, they stimulated foreign trade of the port by the facilities they offered for the transmission of orders and for the speedy conveyance of business men to and from Europe.

For a generation after this period Americans regarded a steamer trip as a reckless form of sport; they felt much safer under sail. Down to the Civil War steam played a very small part in the commerce of Boston.

Steamships. - It was about this time that Mr. Cunard proposed a steamship line from Liverpool to Boston, with Halifax as a port of call, for carrying the royal mails between these ports. Boston business men were not satisfied at first with the precise relation of the port to the proposed line. They had no objection to Halifax as a port of call, but believed that Boston should be the terminal point on this side of the Atlantic because it is nearer the lower British provinces, and convenience of access for them; a shorter distance from Europe; and had superior harbor and wharf accomodations.

To give substantial encouragement to the new line, the merchants of Boston built three docks and made all the necessary provisions to receive steamships of the largest size. They leased these docks to Mr. Cunard for twenty years, reserving no rent except the usual charge of wharfage for goods or freight.

The new means of transatlantic communication was of

immediate advantage to the port. The trips of the line were semi-monthly during eight months of the year, and monthly in the winter. The amount of duties paid at the custom-house on the first eight arrivals was only $2,928.00. It soon became apparent that all the finer and more valuable fabrics could be imported by steam, although the rate of freight was higher than by other means. In 1841 the duties collected on twenty-one arrivals were $73,809.23; in 1842, on eighteen arrivals, $120,974.67; in 1843, on twenty arrivals, $640,572.05; in 1844, on twenty arrivals, $1,022,992.75.[1]

From nil, or no sailings of steamships to Europe in 1869[2], to 100 in 1877; 322 in 1880, and more than 400 in 1892, indicates the rate of commercial development at the port of Boston after the Civil War.

Clipper ships. - With commercial expansion in 1850 came the demand for bigger and better ships. The answer to this was the famous clipper ships which succeeded in breaking every sailing record.

> "A clipper ship, as distinguished from other ships of the time, was built and rigged with a view to speed, rather than carrying capacity or economy. Although New York invented the type, Boston carried it to its ultimate perfection. But the clipper ship came all of a sudden and fled as quickly as it came."[3]

D. Competition with other American ports.

Smaller ports of Massachusetts. - Shipping was the explanation of Boston's successful rivalry with its other American

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[1] Hill, op. cit., p. 142.
[2] See page 19, paragraph 1.
[3] Morison, op. cit., p. 328-9.

competitors. A large portion of the American merchant marine was owned by Boston merchants who preferred to handle the cargoes themselves rather than give these other ports the profits of distribution.

> "The ability of its merchant-shipowners to earn freights and to gather cargoes from all parts of the world, lay at the very root of Boston's success."[1]

When the Port Bill was put into effect, the rival ports of Massachusetts, especially Salem and Marblehead, offered Boston merchants gratuitous use of their wharves, warehouses, and the service of their men for discharging and loading vessels. It was supposed in England that these rival ports would be quick to seize the opportunity open to them to become carriers of the commerce of this port.

Salem had threatened to become the chief rival of Boston since the passage of the Port Bill, and by the time the Declaration of Independence was signed much of the commerce of Boston was beginning to center there even though a large part of the business was outside strictly commercial lines, as it consisted in the fitting out and maintenance of privateers; but this soon gave place to more regular and legitimate trade.

The smaller ports of Massachusetts suffered by the embargo to the extent that Newburyport, Salem and Plymouth never recovered their prosperity. Concentration was the order of the day, and in its struggle to keep pace with New York,

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[1] Morison, op. cit., p. 229.

Boston absorbed the foreign commerce and shipping of all the other Massachusetts ports. New Bedford, Gloucester and Provincetown survived through specialization in whale, mackerel and cod fisheries. Marblehead was partially successful in its effort to revive its Baltic, South American and West Indian trade after the war, but by 1840 most of its successful merchants had moved to Boston.

Other Atlantic ports. - New York was the only successful rival of Boston among North Atlantic ports taking both shipping and commerce into consideration. Its exports advanced steadily as time passed while those of Boston remained stationary; for Boston lacked a good export medium, and by 1845 the Empire State had a greater fleet than the whole of Massachusetts.

The returns for the commerce of Boston for three years ended in 1717, show an average of more than twenty thousand tons for each year, while the clearances at the port of New York during the same period averaged seven thousand tons annually. By 1810 the tonnage of all kinds owned in Massachusetts was 495,203 which was more than the combined tonnage of New York and Pennsylvania. Nevertheless, the tonnage owned in New York was considerably in excess of that owned in Boston.

While the commerce slipped away from the smaller seaports of Massachusetts in the Federalist Days, Boston's commerce had increased rapidly. It managed to remain a good second to New York despite the geographical advantage

of Philadelphia, Baltimore and New Orleans.

When the Cunard line was established here, the people of New York envied Boston somewhat for the superior facilities it then enjoyed for communication with Europe. Although the English packets were making regular trips from Bristol and Liverpool to New York, that port was mainly dependent upon Boston steamers for its passengers and mail service. But after an interrupted service of nearly twenty-eight years the Cunard Company withdrew its mail steamers from Boston in 1868 due to competition of other transatlantic lines at New York, and concentrated their energies there. The company continued to send cargo steamers here, but even they proceeded to New York to complete unloading, and load for Liverpool direct.

> "About one-third of the commerce of New York from 1839 to 1842, was carried either upon Massachusetts' account, or in Massachusetts vessels. Eighty-three per cent of Boston imports were on local account, i.e., purchased abroad by Boston firms; but only twenty-three of New York's imports were owned by New Yorkers. Manhattan profited by its geographical position and commercial advantage. Boston's commercial growth resulted entirely from local enterprise."[1]

When a tax of one per cent was placed on all sales of merchandise at auction, the rich cargoes from Canton, which were disposed of in this way at Boston, drove this trade to the port of New York where there was no tax of this nature. The movement toward New York had been gradual, but steady, and in 1857 there were forty-one arrivals from China

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[1] Morison, op. cit., p. 228.

at that port; twenty of the ships were owned in Boston, but only six arrived here.

From and after 1859 New York began to gain upon Boston; but it was not until 1857 that the tonnage imported into the former port actually exceeded that imported here, and then Boston began to find itself unable to hold its own against this strong competition.

In the extraordinary commercial growth of New York The Bay State was a leading contributor as many of the famous New York shipbuilders and merchants were Massachusetts men.

E. Decline in commercial activity at the port.

The rising success of Boston as a leading commercial port terminated with the clipper ship era, although it remained the principal North American emporium for Baltic and Mediterranean products until the Civil War. During the period 1857-8 to 1867-8, Boston failed for the first time to advance in its foreign commerce - or a portion of it. The imports fell from $44,840,083. in 1857, to $23,957,621. in 1862, and to $24,894,019. in 1857, to $12,183,046. in 1862, and in 1868 their value was only $15,690,873.[1]

The basic cause of Boston's continued importance as a commercial port was the ability of its shipbuilders to keep pace with the growing wealth, prosperity and population. Its foreign commerce and its domestic industries had been

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[1] Hill, op. cit., p. 159.

growing side by side and the marvelous gain it had made in shipbuilding and in the ocean carrying trade of the globe, seemed likely to go on indefinitely. But there were local influences that aggravated and prolonged reverses here in the course of time.

The Calcutta trade in which Boston was especially interested had been overdone; and a reaction in the shipbuilding industry of New England, having its center in Boston, was inevitable after the impulse it had received in the clipper ship era.

It was about this time that iron vessels propelled by steam began to replace sailing vessels. Britain had the advantage in its already well-established iron industry. By 1860 the trend toward iron vessels was marked; and by 1870 the supremacy of the metal steamer had been established.

Had it not been for other circumstances, the outcome probably would not have been permanently disastrous to the commerce of Boston. Although Boston was the first seaboard city to become the key to an extended railway communication, this system was halted in its development after a few years and allowed to lapse into retrogression. All the railroads starting from Boston were short, and the city had no trunk line under its control. The Boston and Worcester, and the Western Railroad Company, which together furnished the direct means of communication with the west were always at cross purposes with each other and all merchandise going west had to be transshipped at Albany, at a serious cost of money and waste of time.

While the New York Central Railroad, in the interest of the port of New York increased its rolling stock threefold during the decade 1855 to 1865, the Western Railroad, supposed to be managed in the interest of Boston added to its freight cars in the same period about twelve per cent.

Under the foregoing circumstances, it was impossible for the export trade at the port of Boston to grow. Return cargoes were indispensable, but Boston was not in a position to furnish them.

CHAPTER II

PRESENT COMMERCIAL ACTIVITY AT THE PORT OF BOSTON

A. Commercial importance of the port.

To New England. - The port of Boston is the great clearing-house of New England for the exchange of freight between inland and ocean carriers. Coastwise and overseas carriers exchange with each other here. The coastwise lines running only north of Boston exchange with those running south. It is here the "short-sea traders" in foreign trade exchange with long-distance overseas carriers; as do the Boston lines from the Maritime Provinces exchange with the transatlantic steamers.

All eastern and northern New England, interested in oversea or coastwise shipments, has value and power added to it by the proximity of the Boston water terminals for this section of the interior sends or receives about three tons of freight through the Boston gateway for every

ton there transhipped for the port itself. This indicates the true relationship between this port and the hinterland which it serves.[1]

The port of Boston is of especial importance as a gateway for imports and exports of the Southeast or industrial New England because this section produces not enough food to support its people, only a few of the raw materials it manufactures, and none of its coal for fuel; and it must find markets for its manufactured products throughout the land. New England produces no wool, yet makes most of the woolen fabrics of the country. New England produces no cotton, yet sells fine cotton goods in southern mill towns. It produces no leather, yet sells boots and shoes in Texas.

New England, situated at the eastern extremity of the United States, is of all industrial districts farthest away from the present center of population and consumption in the Middle West, and from the rapidly developing markets in the South, Southwest and West. To reach these sections by rail, cars must traverse the most congested transportation area in the country. Rates cannot be low for such service, not transportation always rapid and sure. The New England manufacturer can overcome this handicap by shipping freight from the port of Boston past congestion to the heart of the markets sought, and at low rates of water transportation.

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[1] Clapp, E.J., "The Port of Boston," Yale University Press, New Haven, Connecticut, 1916, p. 9.

The importance of these markets as an outlet for New England manufactures is made plain by Mr. Charles R. Gow in the following statement:[1]

> "Today New England is definitely an industrial section, manufacturing chiefly for domestic consumption, while the dependence of its people upon foreign trade as a means of livelihood has largely ceased to exist. Ninety-seven per cent of all the goods manufactured in New England find their market in American territory, while the exports of New England made goods through the port of Boston represent little more than one-half of one per cent of the total production of the territory."

However, in every region where raw materials for New England manufactures are produced, a constant effort is being made to supplant the New England manufacturer. One of the factors that perpetuates the so-called artificial concentration of manufacturing in New England is the nearness of the water terminals at the port.

Value of the port to the community. - The whole community at the port of Boston enjoys incidental advantages. Water carriers make large outlays in that community in connection with their terminal operations. They pay heavily to Boston dealers for coal; and they buy provisions, stores and dunnage* from merchants here, besides paying Boston pilots for taking them in and out, and Boston towing companies for berthing them. They also pay longshoremen for handling their cargoes in and out. With reference to this activity, Clapp

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[1] Massachusetts Metropolitan District Commission, Division of Metropolitan Planning -"Special Report on the Future Development of the Railroad and Steamship Terminals of the Port of Boston," Boston, Massachusetts, 1926, p. 28.

*Loose wood stowed in the hold of a vessel to protect the cargo from injury.

says:[1]

> "The business of handling ships is equivalent in community expenditures of a factory employing 8,000 male hands and (reckoning three dependants to each male) supporting 32,000 people. This does not take into account the value to the community of the ships' crews and their families who live here, or the clerical forces employed on the piers and in the local freight and passenger offices; nor does it include the taxes on real property which is owned by the lines, or leased and given value by steamship use. ---The estimate is approximate, but not too high. It indicates what a valuable industry is represented by the mere coming and going of the water carrier."

Railroad earnings on water freight. - Apart from the steamship passengers whom the rail lines carry, the railroads here derive a large amount of revenue in freight charges on cargoes to and from the water carriers at this port. It has been estimated that the rail freight charges on a single transatlantic sailing amount to from $30,000. to $50,000.[2] In addition to this the railroads maintain and pay taxes on extensive terminals which give employment to large forces of labor, clerical services, and superintendence, in order to manage the interchange of traffic with water carriers. The import trade is of especial value in furnishing freight for westbound cars on Boston railroads which would go empty otherwise.

Warehousing and banking. - In many instances products entering or leaving the port have to be warehoused before they are loaded into ship, or after they land, as in the case of apples awaiting shipment from this port, or wool imported

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[1] Clapp, op. cit., p. 10.

[2] National Shawmut Bank of Boston, "The Port of Boston," 1916, p. 29.

from London, or Egyptian cotton from Liverpool, or tea from Ceylon. Boston bankers earn commissions by financing export shipments, discounting drafts drawn on foreign buyers. Importers here use these bankers to remit funds for purchases abroad. Passengers purchase letters of credit for foreign travel, and immigrants use the foreign and native bankers of Boston to remit their savings to their native country. Cargoes and ships are insured at Boston, and passengers traveling through the port spend money at hotels, shops, theatres and in visits to near-by pleasure resorts.

The seaport manufacturer and merchant. - A location at the port is ideal for the Boston manufacturer who uses raw materials that come here overseas or coastwise, or who ships his products to those destinations. His market for labor of the less skilled type is improved because he has first opportunity to draw upon the thousands of immigrants who land at this port and are looking for work, before they move into the interior. There is also a marked concentration of merchants at the port who deal in imports and exports for the whole of New England. In this location he is at the focus of a network of communications, with all markets to draw from and all markets to ship to, and so enhances the economic welfare of this whole section for which Boston is the "natural" gateway.

B. Facilities for commerce.

Commercial activity is concentrated in four major shipping districts in the inner harbor, namely, East Boston

Charlestown, City Proper and South Boston. The following is an account of the waterfront facilities in each of these districts.

General facilities. - Piers, wharves, docks. East Boston has 51 wharves, exclusive of small landings. There are 10 wharves in this section which are used for public purposes, while 39 are used for the private business of the occupants. The former include the Commonwealth Pier No. 1, Grand Junction Wharves Nos. 2 to 5, inclusive, and the East and West Piers of the National Docks. All the wharves have depths of water ranging from 5 to 35 feet at low tide. The terminals all have railroad connections, except the private wharves. All of them, however, have good highway connections. Steamship lines engaged in overseas traffic use three of these wharves almost entirely, while two are used irregularly. Both overseas and coastwise traffic use four wharves, of the others 8 are used for handling coal, 6 for lumber, 5 for handling or packing of fish, while the remainder are used for non-commercial purposes.

Commonwealth Pier No. 1 is operated by the State department of public works as a general freight and passenger terminal. The pier is 420 feet long by 150 feet wide and has a transit shed with 65,000 square feet of floor space. It has rail connections with the Boston & Albany Railroad by means of a depressed spur extending down the center of the shed.

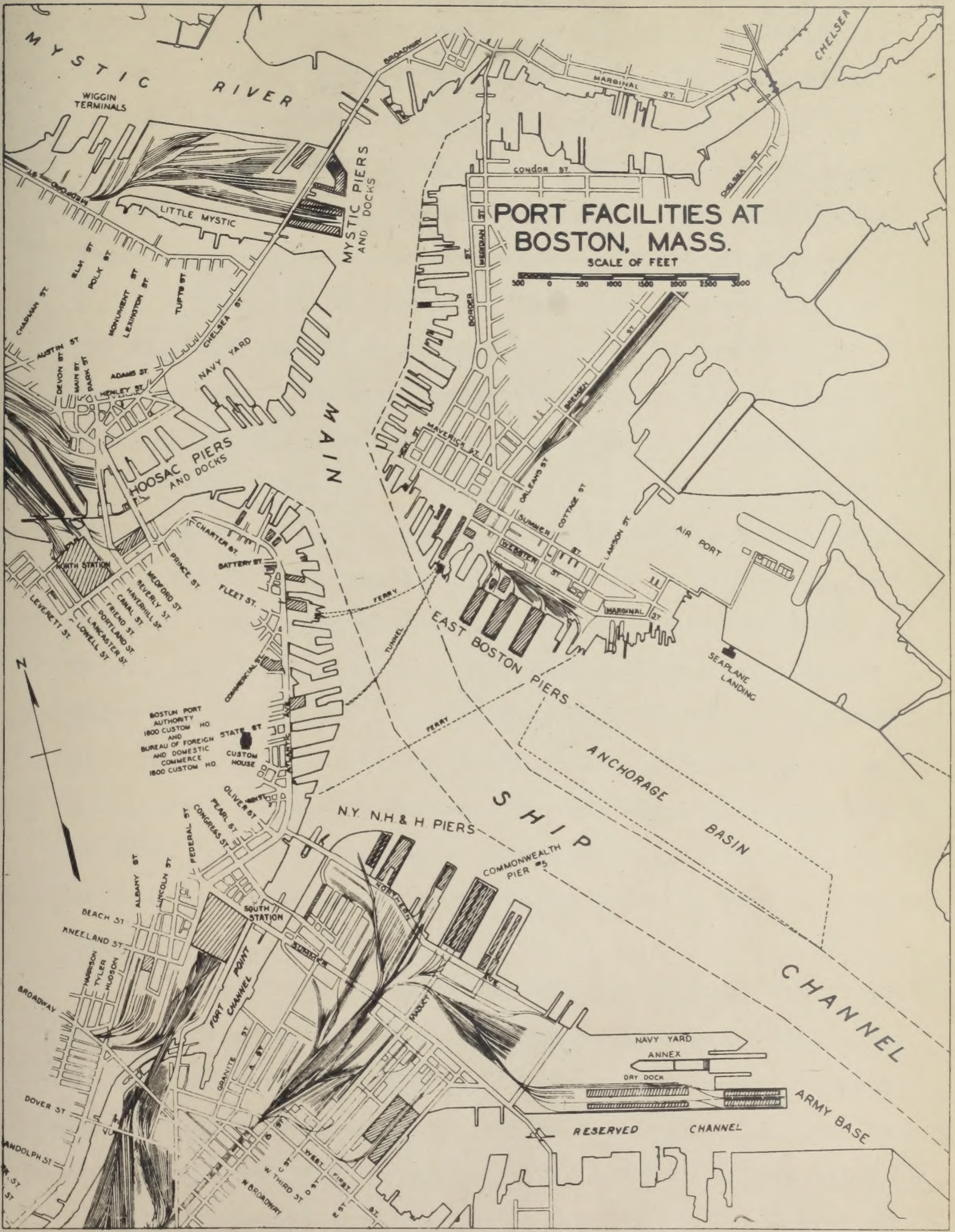
The National Docks, East and West Piers are used for the receipt of merchandise for storage in the warehouses con-

nected with the piers. Both piers are served by the Boston & Albany by means of a 150 foot spur located in the rear.

The most important terminals in East Boston are the Grand Junction Wharves of the Boston & Albany Railroad. These consist of five piers Nos. 2 to 6, inclusive. Pier No. 3 is used by the Cunard Steamship Company. The Leyland Line, Atlantic Transport Line, Red Star Line, and the American Lines use pier No. 4 for transatlantic freight and passenger business. Piers No. 2 and 5 are available for general business, while Pier No. 6 is used exclusively as a coal wharf.

Included in the group of wharves at Charlestown are 11 wharves located on the south side of Mystic River. In addition to these are 10 wharves on the south channel of the same river. Of the total, ten are used for handling coal, 6 for lumber, and the remainder are used for handling merchandise or special commodities in connection with the business of the occupants. The Wiggin Terminals, which is the largest lumber terminal on the Atlantic seaboard, is equipped with many modern devices for the efficient handling of lumber, and it has extensive storage space for this product as well as berthing room for four large steamers.

The principal wharves on the Charlestown front of the main channel are Mystic Wharves at the Boston & Maine terminal. A part of these wharves fronts on the Mystic River, and has already been mentioned. The part fronting the main 35-foot channel includes Mystic Wharves Nos. 46 to 50, inclusive. They are used chiefly by important overseas steam-



(Source-The Port of Boston, Port Series No. 2. U.S. Army Engineers, 1929.)

ship lines, and have facilities for loading from the grain elevator there. Each of these wharves has a freight house for the accommodation of general cargo.

Another group of wharves at Charlestown owned also by the Boston & Maine, have freight houses for general cargo. These are known as Hoosac Docks Nos. 40 to 44, inclusive.

There are 28 wharves and piers on the waterfront of the City Proper, all of which are devoted to coastwise and local traffic. The early commerce of Boston was handled to a large extent at the piers on this side of the harbor, and a few of the old structures built at that time still stand. Some foreign freight business is conducted over Long Wharf, a part of which is occupied by the United Fruit Company, and Canadian traffic is handled over Central Wharf and Commercial Wharf. The terminals along this frontage are served by the Union Freight Railroad. Other wharves which may be included in this group is the Boston Wharf on Port Point Channel, used for storage of general merchandise, and about 17 other wharves on South Bay which are used principally for receipt and storage of coal and lumber. One of these, however, is used to receive pipes, sand and gravel.

Four of the 11 wharves on the South Boston waterfront belong to the State. There are Commonwealth Piers Nos. 5 and 6, and the wharves occupied by the Metropolitan Coal Company. Of the remainder which are of commercial importance, four belong to the New York, New Haven & Hartford Railroad; three belong to the Federal Government, and one is operated by the Boston Molasses Company.

Commonwealth Pier No. 5 is a modern structure with space sufficient to berth five or more of the largest ocean steamships at one time. The building is designed for both freight and passenger traffic and it contains modern facilities in connection with both services. In the building there are 4 depressed tracks capable of accommodating 160 cars, while adjacent available storage will take care of 450 cars in all. On each side of the building there is a strip 20 feet wide served by a single-track railway. There is a direct trucking route communicating with the warehouses of Boston Proper. This pier is in the heart of the wool district, which is the greatest wool market in the world, and only a short distance from the boot and shoe district, another industry in which Boston takes leading rank.[1] The pier has equipment for handling from 13 to 17 tons per hatch per hour.

Commonwealth Pier No. 6, known as Fish Pier, is considered the most modern fish market in the world. It is under lease to the Boston Fish Market Corporation.

Included in the South Boston group are 15 wharves located on the Reserve Channel. The Army base, which is of greatest importance, is the most extensive overseas terminal at this port, and, in fact, one of the largest in the world. It is chiefly devoted to commercial use. There are more than 60 acres of floor space within the buildings and many acres in addition in open storage platforms, paved roadways, and open tracks. The landing platform extends for three-quarters

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[1] War Department of the United States Board of Engineers for Rivers and Harbors, "The Port of Boston - Port Series No. 2", United States Government Printing Office, Washington, D.C., revised edition, 1930, p. 54.

of a mile along the Reserve Channel front. In the rear of this platform are large wharf sheds. Back of these and connected by bridges are two storehouses, with railroad tracks that are fitted with freight-handling devices, on both sides of them. Thus, there are two separate units on this pier, each with its own pier shed and storage warehouse. This terminal is served by the New York, New Haven & Hartford Railroad and has additional facilities for teams, auto-trucks, vessels and lighters.

All other terminals in this locality are for private use in connection with the business of the occupants, which includes principally the receipt and storage of coal, wood, lumber, cement, chemicals, and roofing materials.

Grain elevators. - The Boston & Albany Railroad has one grain elevator at the Grand Junction Wharves, East Boston, with a storage capacity of a million bushels and a normal working capacity from 700,000 to 800,000 bushels. This elevator has galleries extending along both sides of Piers Nos. 2, 3 and 4. These piers are used by the Cunard-Anchor Lines, Leyland Line, Red Star Lines, American Lines and Furness Lines. With the use of electrically-operated belt conveyors, grain is transferred from cars to elevator at the rate of 15,000 bushels per hour, and from elevator to ship, over each side of the piers, at the rate of 20,000 bushels per hour. It has a cleaner with a capacity of about 5,000 bushels per hour and a drier with three times that capacity. There is space for storage of 14 cars inside the elevator, and 279 cars in the terminal yard.

The Boston & Maine Railroad has two elevators. One has a storage capacity of about a million bushels and a working capacity of about 850,000 bushels. There are 121 bins with capacities ranging from 2,000 to 10,000 bushels. It is connected by galleries with Hoosac Tunnel Wharves Nos. 40 to 44, inclusive, located on the Charlestown front. Vessels of the Furness Lines, American Lines, American Merchant Lines, Yankee Lines, and Dollar Line occupy these wharves chiefly. Grain is transferred from cars to elevator at the rate of 8,000 to 10,000 bushels per hour and from elevator to ship at the rate of 10,000 to 12,000 bushels per hour. At Piers Nos. 40 and 41, ships may be loaded from two belts having a combined capacity of 20,000 to 24,000 bushels per hour. There is a drier and a cleaner at this elevator, also. There is space for 18 cars inside and 333 cars in yard No. 14.

The other elevator of the Boston & Maine is at Mystic Wharf, Charlestown. This one has a storage capacity of 420,000 bushels and a working capacity of 350,000, and 120 bins varying in capacity from 1,500 to 7,000 bushels. This elevator is connected by galleries with Mystic Wharves Nos. 46 to 50, inclusive, which are used chiefly by the Ellerman Wilson Lines, Holland-American Line, Furness-Withy Lines, American Export Line, Scandinavian-American Line, and Luckenbach Lines. Electrically-operated belt conveyors are used to transfer grain from car to elevator which can be accomplished at the rate of 8,000 bushels per hour, and from elevator to ship at the rate of 6,000 to 12,000 bushels per hour. Practically all the grain is shipped

from Pier 48. There is one pneumatic drier with a capacity of 5,000 bushels per hour. Eight cars may be set and four unloaded at one time. Yard No. 24 has storage space for 250 cars.

> "While the elevator capacity at the port is adequate for the amount of grain now passing through, it will be noted that the three elevators are railroad-owned and that they are located at piers customarily used by steamship lines of foreign registry. There is no elevator from which grain can be supplied to vessels at Commonwealth Piers or Army Base. As a result of these conditions, practically all the grain shipped from Boston has been carried in foreign bottoms."[1]

From the following table it will be noted that, with the exception of Portland and Norfolk, the total grain elevator capacity available at the port of Boston is far short of that at other ports.

Grain elevator capacity at
other North Atlantic Ports and Montreal[2]

Port	No. of elevators	Total capacity (bushels)
Montreal.........	4	15,162,000
Portland.........	2	2,500,000
Boston...........	3	2,500,000
New York.........	5	8,495,000
Philadelphia.....	4	7,500,000
Baltimore........	3	12,600,000
Norfolk and Newport News...	3	1,800,000

Storage warehouses. The port of Boston is well equipped with warehouses for handling a large foreign and

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[1] War Department of the United States, "The Port of Boston - Port Series No. 2," p. 145.

[2] Massachusetts Department of Public Works - "Special Report of the Department and the Boston Port Authority Relative to the Adequacy of Terminal Facilities," Volume 1, No. 171, Boston, Massachusetts, 1931, p. 121.

domestic business. In addition to the freight houses at the railroad terminals and commodious facilities at the Army base there are numerous warehouse companies with excellent facilities for both cold storage and general storage. Apparently, the private warehouses best adapted for general storage purposes are handicapped by competition of rail-owned terminals, which offer free dockage and absorb the line haul rate and other terminal expense which private waterfront warehouses must meet from the revenue of the terminal itself.

Bulk freight storage. Boston is well supplied with facilities for handling bulk freight either under cover or in the open. An area equal to approximately 3,500,000 square feet is available for this class of storage. There is a total covered storage capacity for about 34,116 tons and an open storage capacity for about 876,600 tons. Practically all this is used in connection with the handling of coal.

Facilities for handling freight. - To facilitate the handling package freight, there are at the railroad piers, steam and electric hoists which operate in conjunction with the ship's tackle. Hand trucks are then used to move this freight in the sheds. As has been stated earlier in this chapter, piers equipped for loading grain have conveyors which carry the grain through galleries.

Coal-handling terminals at the port are equipped with towers and hoists, and some of them have belt and chain conveyors. Lumber, sand and similar commodities are handled at terminals equipped with derricks.

At Commonwealth Pier No. 5, there are 9 large freight and passenger elevators and 24 electric winches. At the Army base is the most modern equipment at the port for handling miscellaneous cargo. With the exception of the facilities found there, the port has no pier equipment suitable for handling heavy machinery such as is manufactured in New England, consequently, machinery of this character is shipped through New York. This equipment includes four steam portable bridge cranes having a capacity of 2½ tons each, and there are two 15-ton, one 18-ton, and one 40-ton steam locomotive cranes. In all, there are 45 electric freight elevators; 6 electric passenger elevators; 18 storage battery tractors, each capable of handling 8 loaded trailers; 750 trailers, each having a capacity of about two tons; 130 trailers of various capacities; 6 electric vertical tiering machines; and 5 pilers for stacking material in bags. The equipment also includes 14 electrically driven portable dock winches for use in connection with cargo hoists. The speed of these winches is 225 feet per minute and they have a capacity of 2,500 pounds. Frequent connections for these winches have been provided along the wharf fronts of the buildings.[1]

C. Commercial services and charges.

General services. - Pilotage. Pilotage into Boston for vessels engaged in foreign trade is compulsory unless the vessel arrives within the limits of the harbor without having been offered this service and not having requested it. It is

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[1] War Department of the United States, "The Port of Boston - Port Series No. 2," p. 29.

not compulsory for vessels in the coastwise trade. Outbound vessels at the port under 350 tons register are not liable for pilotage unless such services are requested, but inbound vessels of not more than 300 tons register, declining the services of a pilot are liable to one-half the pilotage fees at the following rates:[1]

Net tonnage:	Rate per foot of draft
Under 501 tons	$3.00
501 to 1000 tons, inclusive	3.50
1001 to 1500 tons, inclusive	4.00
1501 to 2000 tons, inclusive	4.50
Over 2000 tons	5.00

Towage. Steamers can proceed from the sea to Boston Upper Harbor under their own power. They are usually met by towboats, for docking, while in the stream. The charge for ordinary service for attendance on ships is $15.00 per hour, per tug, one-half hour being the minimum.

Barge towing rates are as follows:[2]

	Below bridges	Through bridges (per bridge)
Barges up to and including 1800 tons	$20	$10.
Barges 1801 tons to 2500 tons	30.	18.
" 2501 " " 3500 "	50.	25.

Dockage. At the railroad piers from which the majority of overseas lines operate, no dockage charges are assessed against vessels; however, a charge of 10 cents per manifest ton is made against the vessel, at Hoosac and Mystic Piers of the Boston & Maine Railroad, for all tonnage of competitive

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[1] Maritime Association of the Boston Chamber of Commerce, "Rates, Rules, Regulations and Practices Applicable at the Port of Boston, U.S.A. and Description of the Port," Boston, Massachusetts, July 1, 1933, p. 11.

[2] Ibid., p. 12.

Intercoastal freight not moved over the piers to or from Railroad cars. At Commonwealth piers the dockage charge against vessels is 10 cents per ton of 2,000 pounds or 40 cubic feet, as rated, computed upon the tons of cargo received or discharged. On lumber the charge is 15 cents per 1000 feet gross board measurement. On bulk cargo the charge is $50. per day. When cargo is not being worked, vessels are charged one cent per gross ton per day or fraction, for use of piers. The regular lines of coastwise steamships have their own terminals or occupy terminals under long-term leases. Coastwise vessels engaged in the coal or lumber trade are generally supplied with berths by the companies controlling the cargo. It is customary to make a small charge for dockage at private wharves in the port that are open to the public.

Wharfage. There is no uniform tariff of wharfage rates at privately owned wharves, the charges varying at different terminals and with different commodities. In general, the Howard Wharfage Rates for Boston[1] are used.

At the Commonwealth piers a wharfage charge of 25 cents per ton is made on all freight except that received by rail from, or destined by rail to points beyond the limits of a zone having a radius of about 40 miles from Boston. On Lumber the charge is 40 cents per 1000 board feet.

Wharfage on import and export freight is assessed in accordance with Howard's rates at railroad-owned piers and at

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[1] Publication by A. T. Howard Company, 9 Knapp Street, Boston, Massachusetts.

the Army base. The charge on lumber handled at the Army base is the same as that at Commonwealth Piers. At piers of the Boston & Maine Railroad on competitive intercoastal freight, a charge of 25 cents per manifest ton is made against all freight handled to or from vessels, which does not move over the piers to or from railroad cars. Wharfage is charged also on all freight to or from vessels that is not transported by the railroad company owning or serving the wharf.

Labor. There is an ample supply of labor at the port of Boston. Union labor is almost universally employed, but when that class of labor is not available non-union men may be employed. Longshoremen will not work with ship's company except in an emergency.

Boston's regulations and working conditions have been amended so that they now conform to the conditions at the port of New York in every way.

The wage scale on general cargo is 75 cents per hour; overtime, $1.10 per hour. Bulk cargo: 80 cents per hour; overtime, $1.15 per hour. Rates on special commodities are as follows:

	Basic pay (per hour)	Overtime (per hour)
Grain....................	$.95	$1.40
Refrigerated cargo......	.95	1.30
Wet hides...............	.90	1.25

Miscellaneous services. - The usual charge for vessel demurrage in the coastwise trade is 25 cents per ton per day on steamers, based upon the coat carrying capacity of the vessel. On steamers with a capacity not exceeding 3,100 tons, three

days are allowed for loading and discharging, and on vessels over 3,100 tons, four days are allowed. This charge refers entirely to coal cargoes. On general cargo, the charge depends upon the contract between the charterers and the owners.

On coal barges the demurrage is 10 cents per ton per day. On barges up to 1500 tons' carrying capacity, four days are allowed for loading and discharging cargoes; from 1500 to 2500 tons, five days are allowed; and on barges over 2500 tons, six days are allowed.

For making out a bill of lading the customary charge is 50 cents to $1. per set, but steamship companies prefer that shippers make out their own documents. The minimum charge for making out a complete set of documents, including consular regulations, is $3.

Brokerage fees for effecting entry of goods at custom-house are subject to private arrangement and are usually from $3. to $5.

D. Movement of cargo and freight at the port.

Loading and discharging cargo.[1]- In receiving foreign merchandise the ship is usually brought alongside the pier and turned over to the stevedores, who land the cargo on the wharf, where it is filed according to the directions of the steamship's clerks. Merchandise is then weighed or gauged by the surveyor's department and examined by the appraiser's department, under the

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[1] War Department of the United States, "The Port of Boston - Port Series No. 2," p. 29.

supervision of customs officials, to the extent that is necessary. No merchandise is taken from the pier until properly released by the inspectors in charge of the ship. The receipts are then taken by the steamship clerks from the consignee or his agent, and freight handlers employed by the railroad companies place the freight in railway cars or it is loaded upon trucks for city delivery or storage.

Outward foreign freight is generally brought on freight cars direct to the piers. It is removed from the cars and placed upon the piers by freight handlers in the employ of the railroad companies, whence it is loaded on the steamers and stored by stevedores. There is no supervision over outward cargo by customs authorities except on drawback merchandise and goods in bond. Receipts are given the consignor or agent by the steamship company.

Coastwise merchandise is handled in the same manner except that it is not under the supervision of customs officials.

On inward cargo the average quantity handled under normal conditions is about 20 to 25 tons per hour for each hatch or gang, and on outward cargo about 15 to 20 tons per hour. Under usual conditions one gang is used for each hatch, but under special conditions two gangs can be used. The average number of men per gang is 20.

The actual cost is charged for the operation of the steam winches and for services in connection with piling and trucking of cargo on wharf. The cost of loading and unloading

varies at different piers and is also dependent upon the character of the cargo. At the present time the cost will average between $1.00 and $1.50 per ton. Discharging is generally accomplished at a slightly less cost than loading.

The cargo is checked at the time of loading or unloading by steamship clerks and the United States customs inspectors. Railroad freight is tallied twice, once by railroad clerks and once by steamship clerks. Receipt for inward cargo is given to the steamship clerks by customs representatives or the consignee or his agent by signing the delivery book on the dock. Receipt for outward cargo is given to the shipper's agent by steamship clerks. This is not a negotiable receipt, but must be returned to the agent's office in exchange for a negotiable bill of lading.

Transit cargo. - The port is served by three railroads: the New York, New Haven & Hartford, the Boston & Albany, and the Boston & Maine. All three are local roads connecting with standard trunk lines at the Hudson River, the last named of the three also maintaining connections with two Canadian trunk lines as well. Much of the freight destined for Boston delivery on a system other than the main carrier road is transferred at one of several points to the delivering road in order that it may reach its destination without the necessity of interchange within the Boston terminal district. Reference to Plan "B" will show the main features of the layout, the entrance and terminals of each of the railroads serving this port, and the connections existing between these lines.

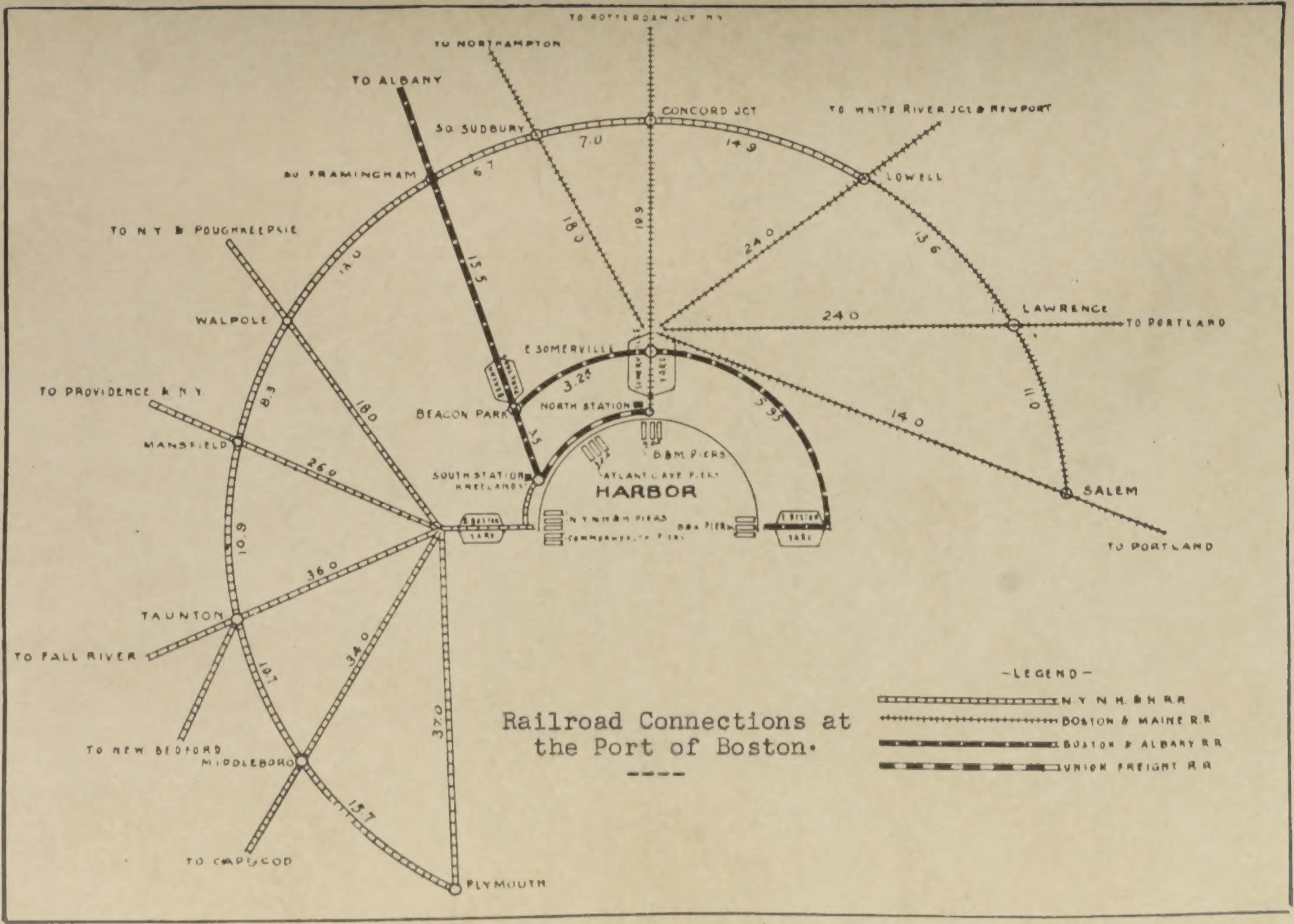
The various divisions of the New Haven Railroad unite before entering the South Boston terminal yard, adjacent to which are the New Haven's piers, as well as Commonwealth Pier No. 5, and the fish pier.

The single line of the Boston & Albany branches at Beacon Park. Its oversea freight is carried around the city to the East Boston yards of the railroad, by the Grand Junction, an intermediate belt-line about 5 miles long.

The various divisions of the Boston & Maine unite at the main yard at East Somerville, from which can be reached their two groups of Charlestown piers known as the Hoosac, and Mystic Docks. The three sets of piers mentioned (at East Boston, Charlestown, and South Boston), are where the ocean-going steamers of the port have long been handled.

Switching. A considerable amount of export and import traffic is exchanged between these lines at the port. The Grand Junction Railroad provides adequately for this interchange of freight between the Boston & Maine, and the Boston & Albany.

The New Haven system is not so well coordinated with the others. It is not easy, within the port, to get traffic between the New Haven rails and Charlestown or East Boston piers, or between South Boston piers and Boston & Albany or Boston & Maine rails. The New Haven, and Boston & Albany can interchange by switching cars across South Station passenger yard at night, as the yard is used for passenger service during the daytime. The New Haven and the Boston & Maine can inter-



Railroad Connections at
the Port of Boston.

(Source-The Port of Boston, E. J. Clapp, 1916.)

change by utilizing the night switch across South Station yard piers plus the night service of the Union Freight Railroad. This road is a waterfront belt-line along Atlantic Avenue and Commercial Street, and is operated indirectly by the New Haven Railroad. Public ordinance requires Union Freight switching be made at night when ordinary street traffic is suspended.

In the past there have been frequent claims advanced in favor of a unified terminal system for the port of Boston, both rail and water. Advocates of the plan have had more or less justification for their position due to the multiplicity of rates applied to the commodities switched from one point to another at the port. However, in 1922 there was put into operation a standard series of charges for such service which had the effect very largely of approximating the condition of unification of the terminals so far as rates are concerned. Under the instructions of the Interstate Commerce Commission, the switching district of Boston was extended, as well.

1. Interchange switching - With the exception of export grain, all carload freight originating at or destined for points west of the Hudson River, and on Canadian lines west of Montreal are delivered to any siding yard or pier in the district without additional charge beyond the established Boston rate for the particular commodity. In other words, a carload of freight shipped from a point more distant from Boston than the Hudson River, via, let us say, the Boston &

Maine Railroad, may be delivered to a consignee within the Boston switching district located on the New Haven system, at no greater expense to consignee than if it had been shipped via the New Haven Railroad. In such a case the cost of switching the car over the Union Freight Railroad from the Boston & Maine terminal yard, together with that of delivery by the New Haven road from its yard at South Boston to the particular pier to which it is consigned at the port, is absorbed by the Boston & Maine Railroad, and comes out of the revenue received by the latter road for handling the car from the Hudson River to Boston. The Boston & Maine pays the New Haven $10.00 for the service performed by that road and furnishes its own switching service free. The same arrangement exists with respect to traffic handled by the other two roads for delivery on the lines of either of them or on the Boston & Maine system.

So far, then, as this class of traffic is concerned (except in the case of export grain), the whole Boston district is now a unified terminal from the standpoint of rates. Export grain must of necessity go to one or the other of the three grain elevators, two on the Boston & Maine system and one on the Boston & Albany, and it is not the practice for either of these roads to handle grain destined for the other company's elevators.

For all shipments, with some minor exceptions, originating within New England territory, or destined thereto from

Boston, if switching is required in order to deliver the car on a siding located on one of the other roads, there is a switching charge of $10., one-half of which is paid by the consignee, and the other half by the railroad having the line haul. The latter road thus performs its portion of this switching movement free.

2. Inter-terminal switching - If the movement involves switching from a point of origin within the terminal district of one road to a terminal point destination on one of the other roads, the charge is $20.00 per car.

3. Intra-terminal switching - A special rate of $15. per car applies where a car is switched from one point to another within the terminal of a given system, and where this is the only transportation service rendered. It will be noted, however, in these last two instances the charges represent the sole revenues received by the railroads, there being no line haul in addition from which to recoup for the costs of terminal operation.

Handling. The rail carriers load and unload carload import and export (except as noted in the next paragraph) traffic free of charge, provided a line haul is received to or from territory defined in their governing tariffs. On other carload traffic the usual charge for handling to and from cars when requested by owner is 30 cents per ton as rated, with a minimum charge of $3.00 per car.

Loading and/or unloading. Unless otherwise provided in tariffs lawfully on file, freight received from or delivered

to water carriers at docks of the railroads and on which the railroad receives revenue road haul, is unloaded from or loaded to cars, without charge to the owner of the property except such freight as is handled direct from vessels to cars or from cars to vessels, which is subject to such arrangements as are made by the owners or shippers of freight, or the owners or operators of vessels.[1]

Loading or unloading charges may be absorbed by the road haul carrier on carload freight (certain commodities excepted) which is loaded or unloaded at piers other than those of the railroad receiving the haul.

Freight handled (certain commodities) in switching service only, by the various railroads and received from or delivered to water carriers at Boston loaded or unloaded as the case may be, at the piers of the railroad companies performing the service will be subject to a charge of 60 cents per ton.

Storage.[2] Carload or less carload domestic traffic stored in or on railroad premises is usually allowed 48 hours free time for removal of inbound freight from car or railroad premises or to complete a carload shipment and furnish forwarding directions. Less carload freight held to complete shipment or held for reshipment is allowed 24 hours free time. After the expiration of free time all freight held on railroad

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[1] Maritime Association of the Boston Chamber of Commerce, op. cit., p. 39.

[2] War Department of the United States, op. cit., p. 178-9.

premises is subject to a charge of $1\frac{1}{2}$ cents per 100 pounds per day for each of the first 5 days, and 3 cents per 100 pounds for the sixth and each succeeding day, or at the option of the carrier may be sent to public warehouses.

Carload freight for export is usually allowed 10 days free time, after which the storage charge is 20 cents per ton for the first 10 days and 10 cents per ton for each succeeding 10 days. Export freight in less than carload lots is usually allowed 5 days free time, after which the storage charge is 1 cent per 100 pounds for the first 10 days and 1/2 cent per 100 pounds for each succeeding 10 days.

Export traffic in carloads moving on through export bills of lading founded on written ocean contract, which in connection with published ocean carriers, is allowed 15 days free time. When not in connection with these carriers such traffic is allowed 10 days free time, after which the storage charge is 20 cents per ton for the first 10 days and 10 cents per ton for each succeeding 10 days.

E. Steamship services. -

A number of steamship lines maintain a regular service to and from the port of Boston and ports of the United Kingdom Western Europe, Mediterranean and Black Seas, Far East, West Indies, Central and South America. Several of these lines have regular inbound schedules, their outbound sailings being dependent upon cargo available.

Independent management of Boston overseas services largely disappeared about 1902 and Boston, Philadelphia,

Baltimore and Norfolk services were thereafter operated with headquarters at New York. Independent management had tended to fill ships at its own port - the new consolidated management got business at one port if not at another, and earned more where ocean rates were highest, for example at Philadelphia and Baltimore. Now, New York continues to be managerial headquarters, while ocean rates are the same and rail rates are a more important factor in governing movements to the ports for export. Thus Boston suffers in foreign trade with no great steamship company directly and primarily interested in her and with a terrific handicap imposed by rail rate structures.

Important additions to and improvements in Boston services have taken place recently, with but few discontinuances, which supplements the information given in the table following page 49.

Additions.

Canadian National Steamships.

Boston, Bermuda, weekly sailings. Also four special West Indies cruises.

Cunard Line.

Canadian North Cape cruise.

Eastern Steamship Company.

St. John, New Brunswick. Biweekly winter sailings.

Southern Pacific Morgan Line.

Galveston-Houston, Texas. Fortnightly sailings.

Improvements.

American Export Lines.

Mediterranean and Black Sea. Fortnightly instead of monthly sailings. (alternate sailings by new fast "Excalibur" class vessels.)

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[1] Boston Port Authority, "Fourth Annual Report," Document No. 37, City of Boston Printing Department, Boston, Massachusetts, 1933, p. 15.

Improvements.[1] (Cont'd.)

Black Diamond Lines.
Rotterdam. Direct sailings every two weeks instead of every three weeks.

Clyde Mallory Lines.
South Atlantic ports. Biweekly instead of weekly sailings. Transhipment at New York for Gulf and Texas ports.

East Coast Line, Inc.
Portland, Maine. Biweekly sailings. Takes place of Eastern Steamship Portland service.

Isthmian Line.
Pacific Coast and Far East. Fortnightly instead of monthly sailings.

Newfoundland-Canada Steamship Lines.
Halifax, Charlottetown, St. Pierre and St. Johns, Newfoundland. Sailings every three weeks. (Replaces Farquhar Line fortnightly sailings summer season only.)

Mooremack Gulf Lines.
Gulf ports. Biweekly instead of weekly sailings.

Quaker Line.
Pacific Coast ports. Fortnightly instead of monthly sailings.

Shepard Line.
Pacific Coast points. Sailings every three weeks instead of monthly.

Silver Line.
Far East and Dutch East Indies. Fortnightly instead of monthly sailings.

Discontinuances.

Fabre Line.
Mediterranean ports. (Most of the vessels of this line withdrawn from North Atlantic trade.)

Maine Coast and Canada Steamship Co.
Portland and Maine Coast points.

North German Lloyd.
Channel points and Bremen passenger service.

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[1] Boston Port Authority, "Fourth Annual Report", 1933, p.16.

Name of line	Owner and operator	Name and address of agent	Nationality	Between what points operated	Location of terminals	Schedule	Class of service
EUROPEAN PORTS							
American Diamond Lines.	U. S. Shipping Board. Black Diamond Steamship Corporation.	Rogers & Webb, 110 State Street.	American	Antwerp and Rotterdam.	Army base	Semimonthly	Freight.
American Export Line.	Export steamship Corporation.	Thomas H. Ryan, 126 State Street.	do	Mediterranean, Levant, and Black Sea ports.	Mystic Docks	Monthly	Freight and limited passenger.
America France Line.	U. S. Shipping Board. Cosmopolitan Shipping Co.	do	do	Havre and Dunkirk	Army base	Every 6 weeks	Freight.
American Merchant Lines.	U. S. Shipping Board. T. H. Winchester & Co.	Rogers & Webb, 110 State Street.	do	London, Leith, Hull, and Dundee.	Hoosac Docks	Semimonthly	Do.
American Scantic Line.	Moore & McCormack Co.	do	do	Copenhagen and Helsingfors.	do	Every 6 weeks	Do.
Oriole Lines	U. S. Shipping Board. Consolidated Navigation Co.	do	do	Liverpool and Manchester.	Army base	Semimonthly	Do.
United States Lines.	U. S. Shipping Board. United States Lines.	United States Lines, 75 State Street.	do	Plymouth, Bremen, Queenstown, and Cherbourg.	Commonwealth Pier	Monthly	Passenger.
Yankee Line	U. S. Shipping Board. Rogers & Webb.	Rogers & Webb, 110 State Street.	do	Hamburg and Bremen	Hoosac Docks	Semimonthly	Freight.
Red Star Line	International Mercantile Marine Co.	International Mercantile Marine Co., 84 State Street.	Belgian	Antwerp	Boston & Albany Piers, East Boston.	As cargo offers	Do.
Cunard Anchor Lines.	Cunard Anchor Lines	Cunard Anchor Lines, 31 State Street.	British	London and Avonmouth.	Pier 3, East Boston	Semimonthly	Do.
Ellerman Wilson Line.	Ellerman Wilson Line	International Mercantile Marine Co., 84 State Street.	do	Hull and Aberdeen	Pier 46, Mystic Docks.	Monthly	Do.
Furness Lines	Furness, Withy Co. (Ltd.).	Furness, Withy & Co., 10 State Street.	do	Liverpool via Halifax and St. John.	Pier 41, Hoosac Docks.	Semimonthly	Do.
Greek Line	Byron Steamship Co. National Steam Navigation Co., of Greece.		do	Greek-Levant ports		Monthly	Do
Leyland Line	International Mercantile Marine Co.	International Mercantile Marine Co., 84 State Street.	do	Liverpool, Manchester, and London.	Boston & Albany Piers, East Boston.	Semimonthly	Do.
Holland America Line.	Holland America Line	Holland America Line, 84 State Street.	Dutch	Rotterdam	Boston & Maine Piers.	Monthly	Do.
Hamburg-American Line.	Hamburg-American Line.	Patterson, Wylde & Co., 177 Milk Street.	German	Hamburg		Fortnightly	Do.
Cosulich Line	Patterson & Wylde Co.	do	Italian	Mediterranean and Adriatic.	Mystic Docks	Every 20 days	Do.
Scandinavian American Line.	Scandinavian-American Line.	A. C. Lombard & Co., 110 State Street.	Swedish	Copenhagen, Oslo, and Baltic.	do	Every 3 weeks	Do.
SOUTH AMERICA							
American Republic Line.	U. S. Shipping Board. C. H. Sprague & Son.	C. H. Sprague & Son (Inc.), 33 Broad Street.	American	Brazil and River Plate ports.	Army base	Approximately every 21 days.	Freight.
Lamport & Holt Line.	Lamport & Holt (Ltd.)	Sanderson & Son (Inc.), 90 State Street.	British	do		Occasional	Do.
Prince Line	Furness, Withy & Co. (Ltd.).	Furness, Withy & Co., 10 State Street.	do	Montevideo and Buenos Aires.	Pier 1, New Haven Docks.	Semimonthly	Do.
FAR EAST							
Dollar Steamship Line.	The Robert Dollar Co.	Dollar Steamship Line, 177 State Street.	American	Honolulu, Japan, China, and Philippines.	Pier 44, Hoosac Docks.	Fortnightly	Freight and passenger.
Isthmian Steamship Line.	Isthmian Steamship Line.	Norton, Lilly & Co., 131 State Street.	do	Honolulu, Philippines, Dutch East Indies, and Straits Settlements.	Commonwealth Pier	Monthly	Freight.
Blue Funnel Line	Ocean Steamship Co. (Ltd.).	Patterson, Wylde & Co., 177 Milk Street.	British	China, Japan, and Philippines.	Army base	do	Do.
AUSTRALIA							
Atlantic Australian Line.	U. S. Shipping Board. Roosevelt Steamship Co.	Rogers & Webb, 110 State Street.	American	Australian ports	Army base	Irregular	Freight and limited passenger.
WEST AFRICA							
American West African Line.	Barber Steamship Co.	Rogers & Webb 110 State Street.	American	West African ports	Army base	Monthly	Freight.
COASTWISE							
Clyde Line	Clyde Steamship Co.	Clyde Steamship Co., Lewis Wharf.	American	Charleston and Jacksonville.	Lewis Wharf	Weekly	Freight.
Eastern Steamship Lines.	Eastern Steamship Lines.	Eastern Steamship Lines (Inc.), Central Wharf, India Wharf.	do	St. John, N. B., Eastport, and Lubec.	Central Wharf	Semiweekly	Freight and passenger.
				New York	India Wharf	Daily	Do.
				Bangor, via Rockland, Camden, Belfast, Bucksport, and Winterport.	do	do	Do.
				Portland, Boothbay Harbor.	Central Wharf	do	Do.
Maine Coast & Canada Steamship Co.	Maine Coast & Canada Steamship Co.	Maine Coast & Canada Steamship Co., Commercial Wharf.	do	Jonesport, via Portland, Castine, Searsport, Bass Harbor, Prospect Harbor, and Brooklyn.	Commercial Wharf	Weekly	Freight.
COASTWISE—contd.							
Merchant & Miners.	Merchants & Miners Transportation Co.		American	Philadelphia, Baltimore, and Norfolk.	Pier 2, Northern Avenue.	Semiweekly	Freight and passenger.
Savannah Line	Ocean Steamship Co.	Ocean Steamship Co., Pier 42, Hoosac Docks.	do	Savannah via New York.	Pier 42, Hoosac Docks.	3 sailings weekly	Do.
United Fruit Co.	United Fruit Co.	United Fruit Co., 1 Federal Street.	do	Havana, Port Limon	Long Wharf	Weekly	Do.
Farquhar Steamship (Ltd.).	Farquhar Steamship (Ltd.).	Farquhar Steamship (Ltd.), 177 State Street.	British	Halifax, St. John, N. B., North Sydney, St. Pierre, Miquelon, and Newfoundland ports.	Commercial Wharf	Semiweekly	Do.
Yarmouth Line	Boston Yarmouth Steamship Co. (Ltd.).	Boston Yarmouth Steamship Co., Central Wharf.	do	Yarmouth, N. S.	Central Wharf	Daily	Do.
INTERCOASTAL							
American Hawaiian Line.	American Hawaiian Steamship Co.	F. W. Anderson, 40 Broad Street.	American	United States Pacific coast ports.	Pier 46, Mystic Wharf, and Pier 5, Commonwealth.	Every 4 days	Freight.
Dollar Steamship Line.	Robert Dollar Co.	Dollar Steamship Line, 177 State Street.	do	do	Pier 44, Hoosac Docks.	Fortnightly	Passenger and freight.
Luckenbach Lines	Luckenbach Steamship Co.	F. W. Anderson, 40 Broad Street.	do	do	Pier 48, Mystic, and Pier 5, Commonwealth Docks.	Weekly	Freight.

(Source-The Port of Boston, Steamship Lines at Boston.
Port Series, No.2,
U.S. Army Engineers,1929.)

Serving Boston in the foreign trade are forty-three lines on regular schedules, as compared with twenty-five lines in 1923, or ten years ago.

In domestic trade, the importance of which cannot be overstated, Boston has thirteen lines, of which seven are coastal and six intercoastal on regular schedules of fifteen services. This is to be compared with the situation in 1913, twenty years ago, and prior to the opening of the Panama Canal, when four lines offered eight services. Then, we were directly connected with certain North Atlantic and South Atlantic ports; now, with these and Gulf, Texas, Panama and West Coast ports.

Reverting to overseas services and assuming they must be largely on a port of call basis until more bulk cargo is secured, the greatest lack in Boston schedules is regular passenger service to and from English and Continental Channel ports.

F. Nature and extent of commerce.

The statement is frequently made that since Boston was formerly the leading maritime city it should, therefore, be possible to re-establish its position of prominence on the sea. This is quite impossible due to the economic change that has taken place here.

In the days of the famous clipper ships, the leading business of the local men of wealth was that of foreign merchants. They built, owned and operated ships, and quite naturally they sailed them from Boston. The cargoes were assembled here from such meager sources, largely local, as

were then available, and it is probable that some of our modern ocean liners could today handle in a single trip nearly the entire year's business of these earlier fleets of ships of insignificant tonnage. Nevertheless, it has been shown that these small vessles carried the products of New England to every part of the world, not over established routes, but wherever trade offered, bringing back in exchange the valuable commodities of other lands.

In response to the demand for additional export cargo, and out of the profits of this prosperous maritime business came the New England industries which grew and flourished until they finally superseded the mercantile business here as the principal calling of men of wealth and ability. It was this success in industrial development that brought about the decadency of shipping, and since these people were pioneers in manufacture, as they had been previously in ocean trade, it was natural that the domestic markets throughout the country should soon consume the output of their mills and factories, thus eliminating their products from the field of foreign commerce.

Even before the Civil War a great deal of capital that had been invested in Boston's commerce was withdrawn and invested in manufacturing enterprises. Thus the foundations of industry had been well laid and New England began to grow in importance as a manufacturing region. In the meantime, the West produced an increasing surplus of agricultural

products, much of which found an outlet through this port. This combination of factors stimulated the growth of facilities for trade once again, and again Boston began to develop as a great commercial center. Along with this growth of the country's manufacturing and commercial areas, the commerce of Boston changed, reflecting the evolution of the nation's business.

In view of the fact that New England produces but little of the raw materials used in its manufacturing concerns, it is, therefore, not surprising to find that the tonnage of foreign and domestic receipts far exceeds the tonnage of shipments, and that the chief use of the port of Boston is for bringing in raw materials used by New England industries.

Total water-borne commerce.- A comparative statement of freight traffic for the recent past appears as follows:[1]

Year	Tons	Value
1923	15,206,461	$ 862,269,258
1924	13,137,884	641,167,499
1925	15,209,620	1,203,222,686
1926	15,784,102	993,839,848
1927	16,599,103	1,056,891,407
1928	17,266,162	974,208,574
1929	19,065,050	999,683,062
1930	15,689,362	781,012,315
1931	16,559,777	604,215,215
1932	14,012,172	437,499,622

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[1] Report of the Chief of Engineers, U.S. Army, 1933; Part 2, Commercial Statistics, Washington, 1933, p.27.

Reliable data on the commerce of Boston does not appear until about 1920, however, for the five years from 1905 to 1909, the total tonnage of all water shipments to and from Boston, both foreign and domestic, averaged 9,287,607 tons from available figures.[1] This volume rose to 9,442,787 tons during the next five-year period. During the war period, however, or from 1915 to 1919, when foreign raw materials, which represented a large share of Boston's imports, were difficult to procure, there was a decline in tonnage. On the other hand, Boston's exports expanded during this period, largely because of the use of the port as a base for government operations, but beginning in 1920 the upward trend was resumed in notable fashion. From 1920 to 1924 the average yearly tonnage in and out of Boston was 12,266,178, and during the following five years, including 1929, the yearly average amounted to 16,784,558 short tons. The growth in Boston's water-borne commerce during those twenty-five years represents an increase of 55.6 per cent. According to the same report[2] the water-borne business of the port for 1929 reached the unprecedented total of 18,688,180 tons, valued at nearly a billion dollars, the greatest in the history of the port with the exception of 1925 and 1927, when the value was slightly more and the tonnage considerably less.

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[1] Subcommittee on Memorial History of the Boston Tercentenary Committee, "Fifty Years of Boston," Boston, Mass., 1932, p.158-9.

[2] Ibid., p.159.

This port handled a total of 15,486,713 tons in 1930, but the figures must be accepted with the understanding that approximately 80 per cent of the business was domestic. In the same year the imports amounted to 2,915,152 tons, and exports to only 263,461 tons. In fact, this disparity is one of the most serious obstacles with which the port is confronted. It is not so much the comparatively small proportion of import and export business to the total business which is disturbing, but rather the great disparity, as indicated by the foregoing figures, between import and export tonnage. A balanced import-export operation is obviously important.

In 1931, the total commerce of the port was 16,545,868 tons, of which 80.3 per cent was coastwise, 16.2 per cent foreign and 3.5 per cent was intercoastal. Increased coastwise business more than offset losses in foreign and intercoastal business.[1]

The figures for 1932, which are the latest available, show the total commerce of the port at 14,012,172 tons valued at $437,499,622. Of these totals, domestic commerce amounted to 10,883,603 tons, or 78 per cent of the total with a value of $337,264,181.[2]

Foreign commerce. - Foreign shipments to and from this port have not shown the normal increase in tonnage which

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[1] Boston Port Authority, "Fourth Annual Report," 1933, p.20.

[2] Boston Port Authority, "Fifth Annual Report," 1934, p.21.

might reasonably have been expected in view of the expanding volume of such commerce for the country as a whole. The reason for this failure of Boston to keep pace in this respect with a few other Atlantic seaports is due in large measure, undoubtedly, to the adverse freight differentials which have had more or less effect in restricting the flow of commodities through this port. The subject of differentials is treated more fully in a later section of this work.

Imports. Boston's imports are probably more diversified than those of any other port in the United States, with the exception of New York. Commodities are received from every part of the navigable globe.

Some of the principal imports and the country of their origin are gunnies, tea and shellac from India; rattans, spices and rubber from the Straits Settlements; hemp and sugar from the Philippines; cotton and onions from Egypt; wool and hides from Australia and South America; coffee and cocoa from Brazil; bauxite from British Guiana; nitrate from Chile; iron ore from Algeria; woodpulp from Scandinavian ports; paper, earthenware and toys from Germany; pig iron, steel and cement from Belgium and Holland; hides and skins from Argentina; china clay and chalk from England; fruits, nuts and olive oil from Mediterranean ports; mahogany, and palm oil from Africa; cocoanut oil and peanut oil from the Orient; raw sugar from Cuba; coal from Wales and Russia; bananas from Honduras and

Jamaica; crude oil from Venezuela and Mexico; salt from Turks Island; molasses from Argentina and Cuba; pulpwood from Russia, and other commodities too numerous to specify from all parts of the world.[1]

Palm oil in bulk from the West Coast of Africa, cocoanut oil and peanut oil in bulk from the Far East, molasses from Argentina, iron ore from Newfoundland and Mediterranean ports, and bauxite from British Guiana, are among the import commodities now received in substantial volume which did not appear in the receipts in former years.

The following figures show the volume of foreign imports at this port during the recent past.[2]

Year	Imports (tons)
1920	1,675,092
1923	3,031,479
1924	2,355,094
1925	2,586,065
1926	2,904,579
1927	2,662,184
1928	2,964,876
1929	3,261,301
1930	2,915,152
1931	2,460,148
1932	2,009,881

More than one-half million tons of Pacific Coast products, consisting principally of provisions, canned fish, hides and skins, flour, beans, canned goods, textile manufactures, wool, lumber, paper, crude oil and petroleum were brought to Boston in 1929 by intercoastal steamers.

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[1] Davis, F.S., "The Port of Boston," Boston, Mass., 1933, p.10.

[2] Maritime Association of the Boston Chamber of Commerce, "The Port of Boston," 1933, p.11.

Relatively few of the imports are for reshipment inland. Only in the case of hides and skins and wool and certain other minor products does Boston figure largely as a distributor of imported materials beyond the borders of New England, either within the United States or to foreign countries. That Boston continues to be the national market for these products is largely because their principal market is in New England and they are goods of high value and small bulk in which transportation charges for redistribution are relatively small. In spite of the growth of business at some other ports, Boston maintains its leadership in wool imports with 59,000,000 pounds brought into this port last year.[1] This is due to,partly,as a result of the early development and continued maintenance of a highly technical and specialized commodity market in response to New England's wool manufacturing industry and partly because wool can absorb the transportation costs of reshipment to other wool-consuming markets. For this same reason, hides and skins are imported into Boston for distribution by rail to tanneries as far away as West Virginia, Kentucky and Wisconsin.

Only a small amount, relatively, of general import cargo or cargo of high value, such as are usually imported through large market centers, enters this port.

Imports have steadily increased over the period from July 1, 1933 to December 31, 1933. This increase is due to a

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[1] The Boston Post, January 24, 1934.

general improvement in business - textiles, especially woolens and cottons, hides and skins, leather and rubber, and other raw materials. Approximately four times the amount of raw wool has been imported at Boston during the period from July 1, 1933 to December 31, 1933, 57,758,000 pounds, as was imported at Boston during the entire year 1932.[1]

Figures for the port of Boston show approximately three times the value of merchandise free of duty, twice the value of merchandise subject to duty; and a true reflection of improvement, the fact that withdrawals of merchandise for consumption upon which duty has been paid show an increase of two and one-half times that for the corresponding period in 1932. Imports for warehouse have increased four times. An increase in the number of vessels entering, engaged in foreign trade at Boston is also noted (17 vessels - 210,993 tons).[2]

Thousands of cases of wines and liquors have been imported since December 5, 1933, little of which, however, is reflected in these figures. The improvement has been steady and it would appear that it would continue to gain.

Exports. Boston's exports are shipped to Great Britain, Continental Europe, the Far East, South America, Africa, West Indies, and other parts of the world, and they

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[1] Interview - Mr. A. M. Pinfield, Statistician, Marine Division, Custom House, Boston.

[2] Ibid.

include: breadstuff, cotton waste, fruits and vegetables, lard and tallow, provisions and meat, finished leather, shoes, cotton piece goods, paper, refined sugar, lumber, hardware, grain and flour, druggists' sundries, machinery, pianos, automobiles, and confectionery.

The volume of exports from this port since 1920 are as follows:[1]

Year	Exports (tons)
1920	573,489
1923	481,961
1924	339,215
1925	338,779
1926	314,990
1927	292,452
1928	403,486
1929	303,120
1930	263,461
1931	230,539
1932	209,096

Export shipments through the port of Boston are not only relatively small as compared to those through the ports of other sections of the United States, but for a quarter of a century they have been declining in both value and volume, except for a temporary rise during the war years when this port was used as a base for government operations. Boston's exports continued to increase until they reached their banner year in 1901, with a value of $143,708,000. Since then exports have declined until in 1932 Boston's exports were valued at only $15,725,272.,[2] or about one-tenth of the value of thirty-

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[1] Maritime Association of the Boston Chamber of Commerce, op. cit., p.11.

[2] Roorbach, G.B., "The Importance of Foreign Trade to New England," New England's Prospect - 1933," Amer.Geographical Soc., N.Y., 1933, p.372.

two years ago.

The exports of this port have declined in volume more than in value. The tonnage fell from nearly 1,500,000 tons at the beginning of the century to 403,486 tons in 1928 and 263,461 tons in the year 1930, a large part of which - over one-half - consisted not of New England products, but of western products, chiefly grain, flour and animal foods forwarded to Boston for shipment. In 1932 exports were 209,096 tons. The decline in both value and volume of exports is to be explained in large measure by the decline in shipments of these western products through this port. Since New England itself has few bulk materials to contribute to its export trade, and since New England manufacturers, as later will be pointed out, use other ports, a decline in export cargo forwarded from the West has meant a decline in the export tonnage here.

The continued decline in our export business presents a serious problem and one unique to Boston as compared with the principal North Atlantic ports. To illustrate (based on 1930 figures) the small proportion of this business now handled here:[1]

Port	Per cent
Boston	2.
New York	65.6
Philadelphia	14.9
Baltimore	7.6
Norfolk	9.9

Port	Per cent
Boston	2.8
New York	97.2

(In total tonnage of Boston and New York)

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[1] Boston Port Authority, "Fourth Annual Report," 1933, p.20-1.

However, this decline in foreign exports in recent years, due largely to differential rate handicaps, has been made up to a large extent by increases in foreign imports, domestic coastwise traffic, and development of trade intercourse between New England and the Pacific Coast through the Panama Canal.

Domestic commerce. - The following table shows the domestic commerce figures of the port:[1]

Year	Coastwise receipts (tons)	Coastwise shipments (tons)
1920...	5,668,209	1,355,396
1923...	10,079,893	1,613,128
1924...	9,157,464	755,751
1925...	9,884,019	1,303,672
1926...	10,624,466	1,163,657
1927...	12,187,661	1,456,806
1928...	11,959,449	1,938,351
1929...	13,788,572	1,712,057
1930...	11,284,250	1,226,499
1931...	12,315,081	1,554,009
1932...	9,786,479	1,097,124

In 1920 coastwise receipts of Boston[2] amounted to 3,792,285 tons and showed a steady increase through 1927, when they reached 11,321,279 tons, making an annual average of 8,507,463 tons, or 66.3 per cent of the total average annual commerce. Coal was the chief commodity with an annual average of 5,796,032 tons, or 68.1 per cent of the total average coastwise receipts for the period. Coal increased from 2,532,633 tons in 1920 to 7,037,528 tons in

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[1] Maritime Association of the Boston Chamber of Commerce, op. cit., p.11.

[2] War Department of the United States, "The Port of Boston - Port Series No. 2, p. 210.

1923, and then dropped to 6,394,760 tons in 1924. From 1924 to 1927 there was a steady rise with a high figure of 7,348,932 tons reached in 1927, which was the peak for the period.

Petroleum and products ranked second with an annual average of 1,121,607 tons or 13.2 per cent of the total. This commodity, which in 1920 amounted to 324,876 tons, showed an increase of nearly seven-fold in 1927, when the tonnage increased to 2,140,727 tons. Other principal receipts in averaged figures were stone, sand, cement, and gravel with 493,925 tons; lumber, 165,317 tons; poultry, game and fish, 77,016 tons; and fertilizer 62,614 tons. All other articles comprised a total 790,962 tons, or 9.3 per cent.

The coastwise shipments at Boston, like the foreign exports, were much smaller than the receipts. From 1920 through 1923 the shipments showed a steady increase from 832,374 tons in 1920 to 1,613,128 tons in 1923. During 1924 the shipments fell off markedly, with only 755,751 tons of commerce handled. The year 1925 found the shipments increasing again, and 1927 showed a slight increase over 1925. The average annual shipments amounted to 1,221,244 tons, or 9.5 per cent of the total commerce. Petroleum and products were the principal commodities with an annual average of 332,064 tons or 27.2 per cent of the total. The year 1923 was the high point in petroleum shipments, rising from 1920 to 1923 and declining from 1923 to 1926 and reaching a peak in 1927 with 487,611 tons. Coal was the next commodity in importance with

an average of 141,414 tons or 11.6 per cent. The other important products in averaged figures were fertilizer with 51,137 tons; coke 23,223 tons; hides and leather, 25,747 tons; and poultry, game and fish, 15,864 tons.

Comparison with other American ports. - Boston ranks second only to New York among the Atlantic and Gulf ports, and was excelled only by Los Angeles among the Pacific and Great Lakes ports in total volume of business handled during the calendar year 1932.

The comparative amount of traffic at each of the principal Atlantic and Gulf ports, in gross tons, for 1932 was:[1]

New York..............	42,882,247
Boston................	11,786,836
Philadelphia..........	11,703,488
Norfolk...............	8,914,408
Baltimore.............	7,596,526
Newport News..........	7,317,852
Houston, Texas........	10,397,547
New Orleans...........	7,490,419

Based on 1930 figures, Boston stood in eighth position in foreign commerce tonnage, among the sixteen principal ports of the United States, being headed by New York, Los Angeles, Philadelphia, New Orleans, Baltimore, Houston and San Francisco, in the order named. In value of foreign commerce based on the same figures, Boston stood seventh, being headed by New York San Francisco, New Orleans, Houston, Philadelphia and Baltimore, in that order. In total commerce, Boston was in sixth place with New York, Philadelphia, Los Angeles, Norfolk and Baltimore

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Boston Post, Nov. 5, 1933 (based on figures obtained from a report of the U.S. Shipping Board Bureau, Dept. of Commerce.)

ahead.

Significant trends in the all-important freight business can readily be shown as follows:[1]

1. In 1932 Boston stood third among the North Atlantic and Gulf ports in volume of total commerce handled - 13,499,902 short tons, being headed by New York, Norfolk and Newport News. Elsewhere in the country this tonnage was exceeded only by Los Angeles and San Francisco.

2. In 1932 Boston stood fourth among the North Atlantic ports in volume of foreign commerce with 2,218,977 short tons, being headed by New York, Philadelphia and Baltimore. Boston was in eighth place among all major United States ports in volume of foreign commerce.

3. In 1932 Boston experienced an 18 per cent decrease in total commerce, compared with 1931. New York dropped 17 per cent, Philadelphia 40 per cent, Baltimore 4/10 per cent and Norfolk and Newport News 16 per cent.

In foreign commerce, Boston dropped 18 per cent and New York dropped 23 per cent, Philadelphia 28 per cent, Baltimore 33 per cent, Norfolk and Newport News 43 per cent.

Although the 1932 tonnage here was less by 3,000,000 tons than in 1931, the loss at some of the other ports was considerably greater. New York traffic dropped 9,000,000 tons, and there was a decline of 8,000,000 for Philadelphia.

The table on the following page gives a detailed account of the commerce of this port for the year 1932.

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[1] Boston Port A uthority, "Fifth Annual Report," 1934, p. 21-23.

Comparative statement of traffic

Year	Tons	Value	Passengers	Year	Tons	Value	Passengers
1923	15,206,461	$862,209,258	[1] 427,487	1928	17,260,162	$974,206,574	5,217,471
1924	13,137,884	641,167,499	[1] 520,010	1929	19,065,050	999,683,062	5,078,507
1925	15,209,620	1,203,222,686	[2] 1,003,624	1930	15,689,362	781,012,315	4,227,546
1926	15,784,102	993,839,848	5,654,808	1931	16,559,777	604,215,215	4,297,956
1927	16,599,103	1,056,891,407	5,493,861	1932	14,012,172	437,499,622	3,828,023

[1] Excluding local and ferry passengers.

[2] Excluding ferry passengers.

Freight traffic, 1932

FOREIGN

IMPORTS

	Tons
Animals and animal products:	
Meats	1,917
Cheese	1,366
Fish and fish products	15,140
Cod or cod-liver oil	3,093
Other oils and greases	243
Hides, pelts, and skins	23,441
Leather and leather goods	2,017
Glue and gluestock	3,553
Casein	221
Bones and horns	302
Miscellaneous	182
Vegetable food products:	
Corn	50
Rice	156
Malt	22
Grain preparations	352
Feed and meal	1,269
Bananas	127,878
Walnuts	1,023
Other fruits and nuts	3,123
Tomatoes	7,634
Tapioca	10,512
Turnips	2,937
Other vegetables	6,476
Olive oil	2,803
Palm or palm-kernel oil	33,811
Other oils and oil seeds	740
Cocoa	21,956
Coffee	20,514
Tea	8,787
Spices	1,138
Sugar	243,915
Molasses	3,210
Preserves	478
Miscellaneous	723
Vegetable products, inedible:	
Rubber	25,539
Latex and revertex	3,877
Gutta, miscellaneous	234
Lac	466
Tragasol	909
Miscellaneous gums, resins, and balsams	1,041
Quebracho extract	13,421
Other dyeing and tanning materials	201
Seeds, bulbs, and roots	596
Starch	591
Peat, mull, moss, etc	5,375
Coconut oil	23,953
Other vegetable oils	204
Miscellaneous	381
Textiles:	
Cotton	16,163
Cotton waste	195
Jute	9,091
Burlaps, jute goods, bags, and bagging	8,135
Flax	3,010
Sisal and hemp	15,254
Miscellaneous vegetable fibers	5,139
Cordage and twine	338
Wool	7,945
Wool noils or wool waste	151
Noils, unspecified	27
Silk, silk noils, and waste	771
Carpets or rugs	1,120
Miscellaneous dry goods	1,282
Miscellaneous fiber goods	498
Miscellaneous textiles	296

IMPORTS—continued

	Tons
Wood and paper:	
Lumber, timber, etc., including logs and shingles	23,627
Bamboo and rattan	1,103
Wood manufactures	1,067
Pulpwood	511
Wood pulp	139,610
Rags and other paper stock	5,248
Paper, various	29,874
Paper goods	71
Miscellaneous	904
Nonmetallic minerals:	
Anthracite coal	452,358
Coke	90,802
Crude or fuel oil	380,491
Lubricating oil	182
Stone and stoneware	3,738
Sand	8,486
Cement	8,009
China clay	14,466
Earth and earthenware	1,180
Glass and glassware	641
Abrasives	1,076
Chalk	9,617
Gypsum	41,804
Salt	1,736
Montan wax or pitch	484
Talc	619
Miscellaneous	299
Ores, metals, and manufactures of:	
Iron ore	527
Pig iron	8,731
Manufactured iron	279
Iron, unspecified	0
Steel and steelware	9,039
Nails and tacks	608
Wire and wire goods	3,671
Copper	77
Tin	206
Bauxite	8,074
Spiegeleisen	129
Miscellaneous	3,734
Machinery and vehicles:	
Motor cars	2,160
Miscellaneous	371
Fertilizers:	
Nitrates	3,813
Phosphates	11,262
Potashes	753
Manure	2,291
Guano	610
Miscellaneous	1,034
Pigments, paints, and varnishes	753
Coal-tar products	493
Potash, miscellaneous	3,685
Soda, miscellaneous	579
Phosphate, unspecified	490
Glycerin	645
Epsom and Glauber salts	778
Cellulose	4,667
Miscellaneous	4,206
Unclassified:	
Pulp, unspecified	821
Canned goods, unspecified	312
Oil, unspecified	217
Stearin, unspecified	207
Toys	931
Wax	1,127
Miscellaneous	16,508
Total	2,009,881

Value, $63,092,081.

FOREIGN

EXPORTS

Animals and animal products:	
Meats and eggs	1,067
Fish and fish products	52
Dairy products	402
Hides and skins	492
Leather and leather goods	1,458
Lard and compounds	5,454
Other oils, fats or greases	2,859
Casings	196
Feathers	218
Glue	85
Miscellaneous	34
Vegetable food products:	
Wheat	93,449
Wheat flour	12,637
Corn	2
Prepared cereals	84
Feeds	12,739
Fruit	3,591
Vegetables	963
Sirup	1,115
Refined sugar	342
Cocoa and chocolate	40
Miscellaneous	120
Vegetable products, inedible:	
Crude and reclaimed rubber	55
Scrap and old rubber	1,194
Rubber goods	526
Rosin	88
Other gums and resins	94
Tobacco	83
Cornstarch or corn flour	792
Miscellaneous	22
Textiles:	
Raw cotton	1,825
Cotton waste	4,174
Cotton rags	113
Cotton cloth and yarn	247
Cotton cordage and twine	92
Miscellaneous cotton goods	123
Jute bagging, etc	460
Fiber cordage and twine	220
Wool	1,648
Wool rags, noils and waste	441
Hair	502
Miscellaneous	86
Wood and paper:	
Lumber and timber	1,160
Shingles	41
Woodenware	1,591
Woodpulp	406
Rags and other paperstock	95
Paper	16,781
Paper goods	1,883
Nonmetallic minerals:	
Anthracite coal	4
Gasoline, naptha, etc	21
Kerosene	211
Gas and distillate fuel oil	2,699
Residual fuel oil	3,279
Lubricating oil	356
Grease and wax	657
Petroleum cake	40
Marble	104
Abrasives	1,028
Asphalt, unmanufactured	9
Ceramics	22
Sulphur	67
Clay	274
Asbestos	147
Miscellaneous	46
Ores, metals, and manufactures of:	
Iron and steel scrap	7,192
Iron and steel ingots, bars, plates, sheets, etc	516
Pipe and fittings	52
Wire and wire goods	882
Nails, screws, bolts, nuts, etc	263
Other iron and steel goods, manufactured, including hardware and tools	494
Old and scrap copper	1,564
Copper goods	65
Scrap and old brass and bronze	2,179
Zinc, zinc goods, and dross	91
Miscellaneous	203
Machinery and vehicles:	
Machinery	1,065
Vehicles	221
Chemicals:	
Coal tar and products	350
Medicines, disinfectants, etc	239
Cementing preparations	208
Metalworking compounds	72
Leather dressings and stains	157
Other industrial specialties	135
Acids and alcohols	48
Calcium chloride	450
Sodium sulphate	113
Sodium hydroxide	348
Other sodium compounds	101
Other industrial chemicals	24
Pigments, paints, and varnishes	54
Nitrogenous fertilizer materials	990
Phosphate fertilizer materials	8,807
Soap and toilet preparations	418
Unclassified:	
Ink	245
Office supplies	79
Shoe findings	287
Miscellaneous	311
Total	209,096

Value, $18,725,272.

DOMESTIC

COASTWISE RECEIPTS

	Tons
Animals and animal products:	
Meats	42
Dried egg yolks	99
Hides and skins	12,140
Leather	2,083
Boots and shoes	726
Leather goods	112
Fish	107,909
Grease	87
Miscellaneous	65
Vegetable food products:	
Rice	3,654
Flour	8,343
Mill products, food, and grain	405
Cottonseed meal and cake	3,900
Oilcake and meal, except cottonseed	36
Cottonseed oil	586
Fruit and vegetables	33,161
Molasses and sirup	1,506
Sugar	3,979
Confectionery	2,995
Coffee, cocoa, and chocolate	481
Nuts	7,377
Spices	84
Vegetable products, inedible:	
Rubber goods	440
Oilcloth and linoleum	440
Tobacco	871
Cigars and ciragettes	2,032
Naval stores	17,618
Dyewood extract	633
Linseed oil	66
Textiles:	
Cotton	51,664
Cotton linters, noils, regins, and batts	428
Wool	81,139
Drygoods and clothing	40,812
Wool waste	585
Cotton waste	65
Cotton and worsted yarn	6,525
Bagging and bags	666
Cordage and twine	1,409
Carpets and rugs	352
Fiber	147
Wood and paper:	
Lumber	131,479
Wood	750
Piling	200
Woodenware	471
Woodpulp	19,651
Pulpboard and wallboard	14,552
Paper, various	32,910
Books and magazines	4,022
Old magazines	4,642
Paper goods, various	1,337
Nonmetallic minerals:	
Anthracite coal	431,088
Bituminous coal	4,808,255
Coke	50,535
Crude oil	1,851,066
Fuel and range oil	267,956
Bunker fuel oil	134,736
Gas oil	12,015
Gasoline	203,783
Kerosene and furnace oil	169,684
Heating oil	8,078
Lubricating oils and greases	2,523
Refined petroleum products, unspecified	481,141
Cement	148
Sand and gravel	300,847
Granite	2,261
Clay and earth	1,335
Sulphur	14,309
Salt	3,919
Asphaltum paper	4,891
Roofing and roofing material	813
Crockery and glassware	778
Miscellaneous	12
Ores, metals, and manufactures of:	
Special iron	294
Pipe and pipe fittings	2,643
Files	59
Wire	458
Iron and steel articles	495
Tinware	963
Sheet copper	25
Plumber's goods	1,262
Ores, metals, and manufactures of—Con.	
Machinery and vehicles:	
Machinery	1,058
Batteries	191
Automobiles and parts	3,525
Chemicals:	
Dry acid phosphate	3
Bichromates	534
Nitrate of soda	4,370
Soda, unspecified	647
Nitrate, unspecified	100
Potash salts	502
Ammonia sulphate	736
Phosphate rock	9,234
Miscellaneous fertilizer materials	7,523
Fertilizers	816
Coal tar and tar products	21,201
Alcohol	1,163
Paints and varnishes	2,175
Soap and soap powder, and washing compounds	2,819
Medicines and drugs	842
Printing ink	127
Insecticide	107
Miscellaneous	3,912
Unclassified:	
Canned goods, unspecified	65,436
Oil, unspecified	256
Graphophones and records	1,326
Household goods and furniture	146
Pulp, unspecified	263
Carbon black	193
General cargo	289,229
Total	9,786,479

Value, $213,335,065.

COASTWISE SHIPMENTS

	Tons
Animals and animal products:	
Meats	25
Hides and skins	91
Leather	4,849
Boots and shoes	11,438
Leather goods	76
Fish	3,093
Lard substitute	38
Ground oyster shells	200
Miscellaneous	3,260
Vegetable food products:	
Rice	60
Flour	3
Fruit and vegetables	18,660
Peanuts	30
Molasses and sirup	561
Sugar	12,851
Coffee	989
Cocoa and chocolate	254
Denatured rum	1,212
Beverages	1,551
Confectionery	8,218
Vegetable products, inedible:	
Rubber boots and shoes	2,757
Rubber tires	23
Tire fabric	774
Rubber and oil clothing	212
Miscellaneous rubber goods	1,087
Turpentine	3
Textiles:	
Cotton	978
Cotton waste	11
Wool	5,784
Wool waste	228
Drygoods and clothing	17,340
Cotton and worsted yarn	2,339
Cordage and twine	410
Cotton thread	1,048
Burlap	2,885
Bagging and bags	529
Carpets and rugs	476
Miscellaneous	815
Wood and paper:	
Lumber, shingles and laths	524
Paper, various	10,057
Books and magazines	486
Paper goods, various	1,335
Nonmetallic minerals:	
Bituminous coal	14,027
Coke	50,066

DOMESTIC—Continued

COASTWISE SHIPMENTS—continued

	Tons
Nonmetallic minerals—Continued.	
Fuel and range oil	141,427
Bunker fuel oil	5,662
Gas oil	3,615
Gasoline	311,016
Kerosene and furnace oil	6,708
Heating oil	41,249
Lubricating oils and greases	1,261
Refined petroleum products, unspecified	62,752
Sizing	474
Miscellaneous	44
Ores, metals, and manufactures of:	
Pig iron	4,920
Special iron	36
Wire	1,526
Iron and steel articles	1,279
Scrap	11,925
Miscellaneous	19
Machinery and vehicles:	
Machinery and boilers	1,312
Automobiles and parts	635
Chemicals:	
Ammonia sulphate	6,857
Fertilizers	17,728
Tar products	8,579
Sulphuric acid	702
Soap and soap powder, and washing compounds	20,448
Paints and varnishes	362
Printing ink	946
Medicines and drugs	4,490
Shoe polish	713
Miscellaneous	2,489
Unclassified:	
Canned goods, unspecified	3,689
General cargo	252,598
Total	1,097,124

Value, $123,929,116.

LOCAL RECEIPTS AND SHIPMENTS

Animals and animal products: Hides	140
Vegetable food products:	
Cottonseed meal and cake	1,290
Cottonseed oil	92
Vegetable products, inedible: Rosin	4,299
Textiles:	
Wool	489
Cotton	5,160
Wood and paper:	
Lumber	45,162
Timber	121
Mahogany logs	1,500
Piling	673
Ties	812
Paperboard	49
Nonmetallic minerals:	
Anthracite coal	33,810
Briquetles	223
Bituminous coal	90,787
Coke	24,816
Bunker oil	10
Refined petroleum products, unspecified	594,147
Sand or gravel	3,890
Cement	335
Brick	342
Ores, metals, and manufactures of:	
Pipe	637
Boilers	28
Machinery and vehicles: Buoys	39
Chemicals:	
Fertilizer and materials	7,661
Soap	1,477
Ammunition and ammunition details	3,106
Miscellaneous	562
Unclassified:	
Naval matériel	84
General cargo	87,721
Total	[1] 909,592

Value, $21,418,088.

Grand total, all traffic	14,012,172

Value, $437,499,622.

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[1] In addition to the above freight, 191,700 tons of ashes and rubbish and 40,500 tons of garbage were transferred within the port; this movement requiring 681 scow trips.

(Source-Report of the Chief
of Engineers,U.S.Army,Part 2,Freight traffic at the
Commercial Statistics,1933.) Port of Boston, 1932.

G. Factors detrimental to Boston's commerce.

There is a wide spread between the volume of traffic that might geographically be expected to move via Boston, and the volume that actually so moves.

Commercial advantages. - If the former conditions in the port and in the country at large made it possible to preserve and extend the position of Boston as an oversea trader while the present conditions do not, there must be some good reason or reasons for the change. The port is a good one and good ports capable of handling overseas vessels of the modern type are not numerous within this trading area. Boston as a member of the North Atlantic group, has an important "natural" advantage in being nearer European ports than its principal rivals. A comparison of these distances is shown in the diagram on the following page. The result of this situation is that the operating expenses of an ocean trip to and from Boston are less than to and from any of the other ports. With five steamers, a weekly service could be maintained between Boston and Liverpool, but additional steamers would be required to maintain the same service between other North Atlantic ports. Ships running from New York could make only fourteen trips as compared with fifteen from Boston.[1] The artificial improvements which have been added to the natural equipment, are in many respects, excellent. There is docking space with deep water for many times

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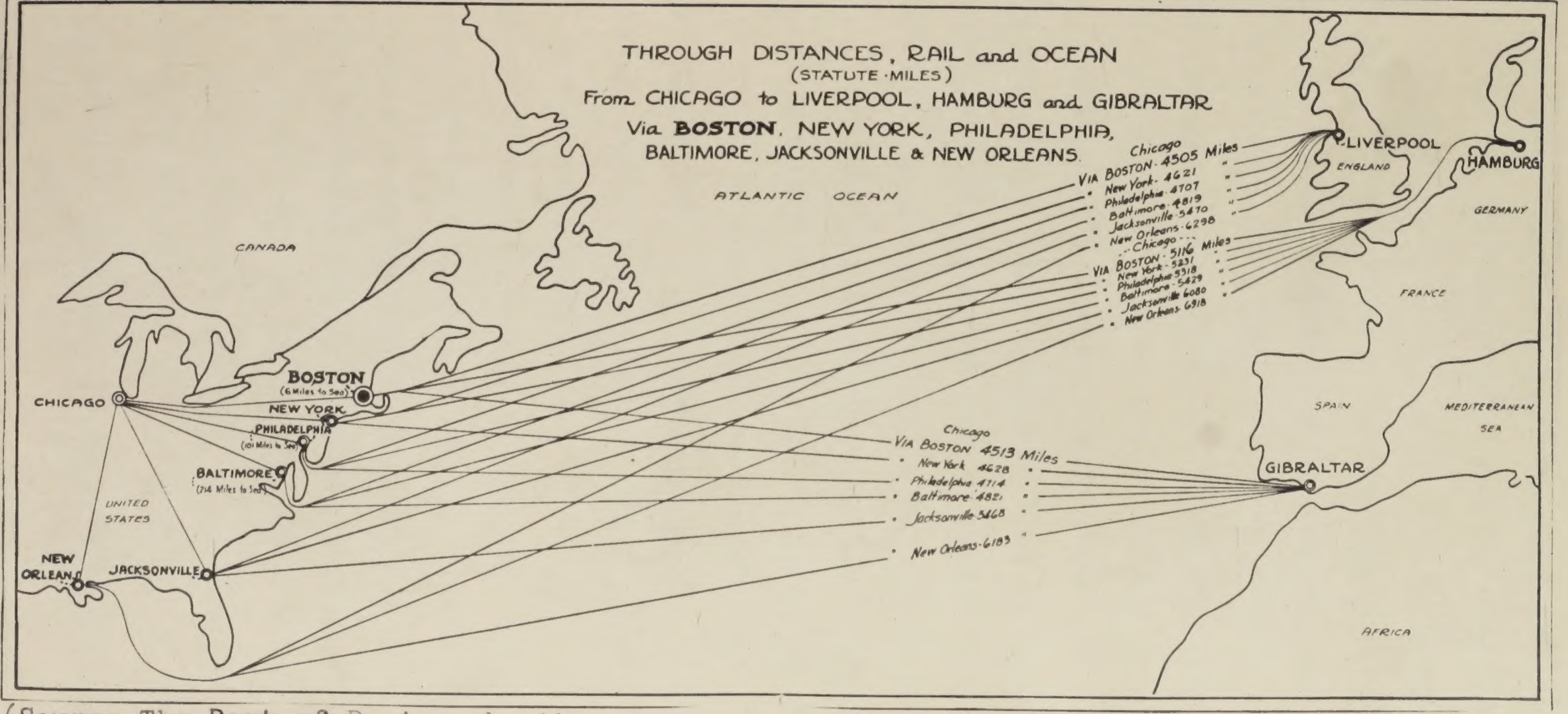
[1] Clapp, E.J., op. cit., p-26.



(Source-The Port of Boston, by the
Maritime Association, Boston
Chamber of Commerce, 1933.)

the quantity of shipping now using the port. The present docks and wharves in use answer the requirements of existing traffic very well. Clearly, there is no general feature of American industrial or commercial development which accounts for the failure of Boston to keep pace while rival North Atlantic ports have grown.

Load factor. - According to MacElwee[1], the essence of a great seaport is the number and frequency of its water connections, particularly its overseas lines. If ocean distance was the determining factor in that respect, it could be relied upon to interest new steamship lines to come to Boston and even to induce the lines here at present to expand their services. An element of greater influence, however, in the competition for ocean shipping between Boston and other ports is the so-called load factor. By the load factor is meant the fact that ships bringing a cargo to port will get another out. In reference to this point the same author mentioned above states:[2]

"The maintenance of shipping service at any port is dependent upon the availability of profitable cargoes. The ideal conditions are found where there is both bulk and package freight for the loading of outbound vessels, manufacturing industries requiring large quantities of imported raw materials, and a large population consuming the food products and manufactures of other lands."

Relying on the strength of this statement, Boston

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[1] MacElwee, R. S., "Port Development", McGraw-Hill Book Company, New York, 1925, p. 227.

[2] Ibid. p.228.

has ideal conditions in all but one of the above respects - bulk freight for export. Greater Boston has a population of about 2,000,000; within 50 miles dwell and work (in normal times) about 3,500,000 people. Southeastern New England is an industrial region; it uses great quantities of imported raw materials and produces a greater value of manufactures for export than any other equal area of the country, with the exception of the New York industrial district.[1]

Even if Boston could count on all the export and import traffic and passenger traffic of this local hinterland, or even of all New England, it would not be a first class port. For one thing, its exports, though high in value, are small in bulk and do not fill the ships which have brought here the imports for New England industries. To fill these ships are needed the grain and grain products, especially, of the West, the South and Canada in order to comply with the working of the load factor.

A study of the situation will show that Boston's warehouses are not kept filled. Much of the capacity of its grain elevators stands continually empty. Southeastern New England imports considerably, and exports still more largely, via New York. The passenger list of every large liner out of New York contains scores of travelers from Boston itself. Canadian exports of grain and grain products are overflowing more and more through Buffalo to New York, Baltimore and Philadelphia. With western exports

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[1] Clapp, E. J., op. cit., p. 19.

the case is still worse for after discharging in Boston imports for distribution in New England, a liner is required to sail to a competitive port to load these exports from the West.

The increased size of steamships and the increased speed of their operation, combined with fast railroad schedules, have resulted in materially expanding the commercial area which any port serves. There is no longer export and import traffic in nearby territory alone which would normally move through the port of Boston in sufficient quantities to keep the port working at anything like capacity. An analysis of the character of the outbound foreign commerce of the other Atlantic and Gulf ports indicates that in each instance with the exception of New York,* they are likewise largely dependent upon one or more primary bulk commodities which originate in contiguous territory; for example, 86 per cent of the exports of Philadelphia consists of coal, coke, oil, grain and steel; 92 per cent of the exports of Baltimore is made up of the same five commodities; cotton, oil, sulphur and grain constitute about 96 per cent of the volume of exports of Galveston; grain, cotton, oil, lumber and tobacco make up 90 per cent of the export business of New Orleans.[1] Consequently the ocean and rail lines meeting at the respective ports are competing keenly for an increased share of western traffic

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*New York's exception in this instance is due to the fact that the many railroad trunk lines which serve the port carry there from all sections of the country a very large volume of miscellaneous export freight.

[1] Gow, C.R., _op_. _cit_., p. 18.

which Boston must secure for the load factor to operate. As has already been indicated, this in turn would tend to attract additional steamship lines to this port.

The success with which Boston can meet the competition in this respect, and obtain its fair share of this competitive traffic, will determine its future growth. The fact is, there are influences at work which diminish the volume of traffic that might be expected to concentrate at this port.

Differential freight rates. - The most serious feature of the Boston port situation is the fact that Boston's principal connections with the West are dependent upon New York trunk lines. No western export traffic naturally comes via Boston. It all originates on the lines of the carriers whose home ports, giving them the longest hauls and largest earnings, are other than Boston. Or, if the traffic does not originate with such a carrier, it must pass over the rails of such a carrier before reaching the Boston roads, none of whose lines run west of the Hudson River. This, of course, calls for a division of rates among the various roads which may contribute in the freight haul to this port.

While it may seem that a matter is here minutely dwelt upon, it is the common opinion that rate divisions are an inter-railroad concern and no affair of the public. In general that is true; the public is concerned only in through rates, not in their apportionment among carriers. In this particular case, however, provision for absorption of the

differences in these through rates due to the operation of the freight rate "differentials" concerns the development of this port.

The operation of the differentials, or lower export and import rates accorded Philadelphia and Baltimore, has long been recognized as the main difficulty under which Boston has labored as far as western traffic is concerned. To afford a clear understanding of the influence of these freight rates on the commercial activity at the port of Boston a brief statement of the rate situation will be given.

The differential principle.[1] - About 1877, as at present, western grain was the commodity most sought for export. Action was taken by the Pennsylvania Railroad and the Baltimore & Ohio Railroad to retain what they considered to be their fair share of the foreign trade through the ports of Philadelphia and Baltimore in competition with New York. Thereupon a differential was applied which made the export rates through these ports respectively 2 cents and 3 cents lower than the rate through New York.

This differential was applied soon afterward to Norfolk, Newport News, Montreal, Portland, St. John and Halifax.

Later the Gulf ports entered into competition for this western export business with through rates from the Middle West lower than those which were applied to business done through the North Atlantic ports.

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[1] Cherington, P. T., The Port of Boston, Boston, Massachusetts, November, 1917, p. 17.

The principle was the center of many controversies up to 1912, but it gradually developed the system of differentials until now it is firmly established.

Boston and the differential.[1] - Until about 1905 Boston was, in principle, on a basis exactly the same as New York. But as a matter of practice, whenever the railroads of Boston found that they were losing traffic in competition with ports farther south, they simply cut rates on the ground that this was part of the through rail and steamship rate. When this was rendered illegal in 1903 Boston began to feel seriously the effect of the differentials. At the same time agitation in Canada in favor of "all Canadian" routes for Canadian grain considerably checked the expected development of Boston as an overflow port for that product.

By 1910 imports had become an important feature of the problem. Previously, in 1907, all the North Atlantic Ports were feeling the competition of the Gulf lines on imports for shipment to the Middle West. Later Boston lowered its rates on import traffic to the Baltimore basis, which was then below the New York rate. In 1901 the Boston roads, at the instigation of the New York trunk lines, agreed to advance their import rates to the scale with commodities 1 cent under New York. They did this, however, with the understanding that they might revert to the former scale later, if they so desired. When Boston attempted to

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[1] Cherington, P.T., op. cit., p. 19.

do this later, the action led to a rate war as a result of which, by the Interstate Commerce Commission decision of 1912, Boston was put on the same basis as the New York import scale via "standard" lines, which meant that the New York trunk lines, upon which the Boston standard lines are dependent for their Western connections in order to secure the much needed grain exports for this port cannot carry imports from this port at a lower scale than is applicable to New York.

The object of these differentials was to equalize the differences in cost of transportation through the several ports concerned through competitive territory.

In considering repeals from the decision of 1912 made by Boston interests, the following opinion is repeatedly expressed by the Interstate Commerce Commission:[1]

> "...All of the competing Atlantic ports should be kept open for the transaction of export business upon such terms that each may fairly compete for it... The maintenance of competitive conditions is not only desirable in fairness to the ports themselves, but it is essential in order to secure an even flow of traffic and prevent the congestion at certain ports which is chiefly responsible for the failure of our transportation system to meet the demands brought upon it during periods of great business activity. Moreover, the ability of the port to serve the local territory which is properly tributary to it may be impared if it be deprived of through business."

Much of the grain which moves through North Atlantic ports comes by water to Buffalo, as is illustrated in the diagram on the following page, and then moves by rail to these ports.

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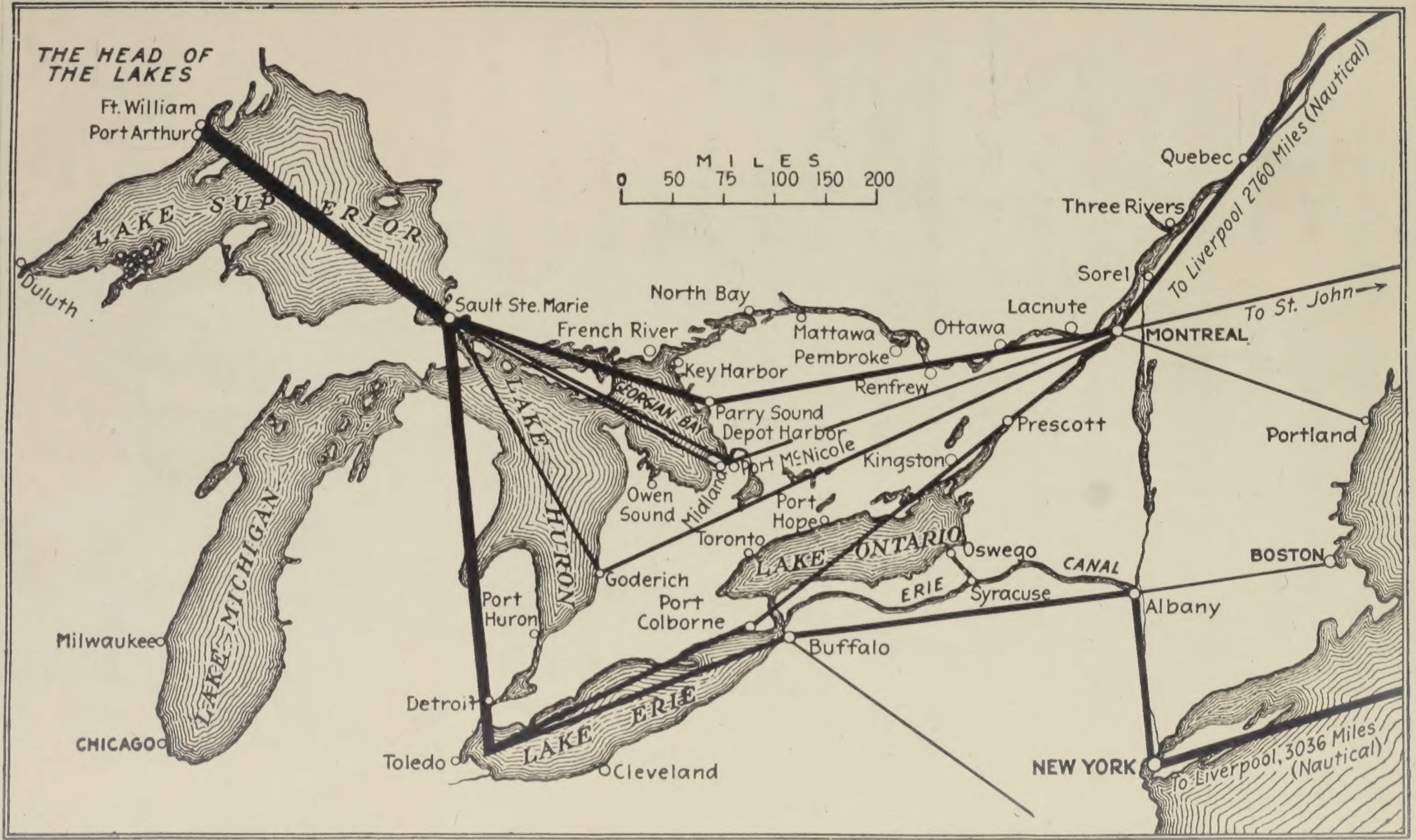
[1] War Department of the United States, "Port of Boston - Port Series No. 2", p. 193.



(Source-Annual Report of the Montreal Harbor Commissioners, 1916.)

Grain Routes from the Head of The Lakes.

The distance from Buffalo to Boston, New York, Philadelphia and Baltimore is not markedly different and there is no obvious reason why the two latter ports should be favored with a differential on this ex-lake grain.

Although Boston and New York are on an equal rail rate basis a great deal of traffic that would normally pass through Boston is directed through New York because an extensive "free" lighterage* service has grown up in the latter port under which is offered choice of deliveries through steamship piers, through railroads, and through so-called contract terminals*. Such lighterage service is very expensive to the railroads. Notwithstanding the expensive character of this service, the railroads serving the port of New York render it for the rates they charge for line haul; that is no separate charge is made for the terminal service, to the extent that there is a charge for it. It is included within the through rate. The consequence of the arrangement is that the railroads have referred to it as "free lighterage". In Boston there is no free lighterage

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*Essentially, lighterage represents a type of direct contact between railroad car and boat. Under the ordinary form of such contract, goods are handled from ship to pier floor, thence to car, which is switched to the railroad yard. A lighter is a floating shed which is loaded with boat freight and switched (towed) in the harbor to a point alongside a railroad car.

*Under an agreement of this nature, the steamship company generally obligates itself to discharge and take all cargo at the railroad's pier and nowhere else. In contracting for export freight from inland, the steamship company agrees to find the preference to, and use its influence in favor of, the railroad and its connections. The steamship will deliver to the railroad so far as lies within its power, all import freight destined to points reached by the railroad or its connections.

from the railroad terminals. A through rate does not apply. Transfer and shipping charges are absorbed only on a portion of the freight entering the port.

Ocean rates. - Until a few years ago it was the custom of vessels leaving from Boston to make lower ocean rates than vessels leaving from south. This served, in part, to offset the effect of the differential rail rates in operation against Boston's commerce. Since the close of the war, however, it has been the policy of the Shipping Board, backed by foreign steamship lines, to make common rates from all North Atlantic ports to Europe. The result of this move was to keep the rail differential a serious handicap in movement of grain through this port.

With the ocean rates the same from North Atlantic ports, and with inland rates lower to Baltimore and Philadelphia, it is apparent that the through rate from American interior to foreign destination is lower via Baltimore and Philadelphia. The regular steamship line operating out of this port must, if it is to get Western cargo, take an ocean rate lower than that applying from Philadelphia or Baltimore, in order to keep the through rate via Boston the same as via the differential ports. It must do the same to recover from Boston its share of New England commerce that passes through New York due to operation of the free lighterage system there. With few exceptions steamers sailing from this port to European destinations are owned by the lines running steamers to the same destinations from

differential ports. The difference in the operating cost of a freight steamer making a round trip from Europe to Boston, rather than Baltimore, is not great.[1] Therefore, it pays the steamship lines to take western cargo at Baltimore or Philadelphia.

This operation of differentials, causing a lack of outward cargo here, tends to show its effect in the form of increased inward rates because of the expenses involved for a steamer to proceed to another port to get the needed out-cargo, and by so much handicaps the New England manufacturer to whom the inward cargo is brought.

Uneconomical use of the port's facilities. - It appears that Boston is permitting itself to add to the heavy handicap already imposed on its commerce by differential rates by not using the facilities of the terminals at the port to the best advantage. The most important single factor bringing about this condition is laid to the fact that the waterfront terminal business has largely fallen into the hands of the three railroads serving the port.

Free dockage. The most conspicuously bad feature about combining the railway business with the terminal business is the common practice of the railroads using the foreign steamship lines as exclusive export and import connections under terminal contracts.[2] These connections in addition to being exclusive uniformly provide also for

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[1] Clapp, E.J., op. cit. p. 23.

[2] See footnote, p.73

granting to the steamship companies the use of docks without payment of dock rental. It is a practice employed by the railroads of Boston, as well as by several other roads throughout the country, in competing for the business of the water carriers, to offer this free service to vessels contributing traffic to their lines. This means that the railroads furnish and maintain at their own expense all of the facilities and equipment for loading and unloading ocean freight, and absorb the cost of such service in their charges for transportation. The only charges collected by them for the use of these terminals are those assessed against freight which is trucked to or from the wharf and on which the railroad itself collects no revenue for transportation service. For such freight the railroad charges for wharfage at standard rates.

By the arrangement of putting all regular line sailings under railroad control, it prohibits all publicly and privately owned wharf properties at the port from being used as wharves except for coastwise or tramp business for occasional foreign sailings. They cannot compete with the terminals for foreign business unless they also offer free dockage to vessels engaged in that trade. This condition was not always true. In connection with this statement one historical point seems to be worth mentioning.

Up to about 1865 there was practically no railroad ownership of these water terminals. Private dock and wharf companies conducted all the business of operating wharves and

maintaining these waterfront terminal facilities in Boston. A healthy state of business prevailed due to very keen competition. Then for the first time the business of operating a wharf in the port became intimately associated with the business of operating a railroad.

Without the ability to collect a dockage fee independent piers are at a serious disadvantage, since there is usually no other source available to them from which to derive the necessary revenues to cover operating expenses and profit. In some instances, however, such as the Army base, where much of the goods handled carry storage charges, it is possible for private concerns operating these piers to develop a substantial amount of income from that source.

Wasteful operating methods. - The practice of giving free dockage for the purpose of tying the steamship line to the railroad company creates difficulties for the steamship company and hampers the movement of merchandise into and out of Boston in comparison with some of the other ports on the Atlantic seaboard with which Boston is competing.

If each railroad were able to secure complete cargoes for each ship offering itself, and if all the business done in connection with steamships were to and from competitive points, the situation would be quite satisfactory. As it is, the struggle for business by the individual lines is keen and the competition that develops leads to wasteful and unsatisfactory methods of operation of the steamship lines. For example: If a ship operating a line running in

connection with, say, the Boston & Albany Railroad should have only three-fourths of a cargo ready for her at that company's Grand Junction Wharves in East Boston, she would not be permitted by present practice to solicit cargo at the terminals of other railroads no matter how much freight might be at these docks for the same destination. She is not permitted to load freight obtained from any of these railroad piers nor, in fact, from any other pier unless there is a high switching charge imposed on that freight which is absorbed by the railroad in certain instances only.[1] If cargo for this ship brought in by any other line were to be lightered to the side of the ship and put on board by the ship's own tackle, it would be obliged to pay half wharfage to the Boston & Albany Railroad. Again, if more freight were at the Grand Junction Wharves than the ship could take, and if there were no other sailing by this line until a later date, the freight would lie there awaiting the next steamer of this line rather than be transferred to any other pier for forwarding by any other line. This, again is due to the switching charge which would be added to the freight in case of such transfer.[2] These serve to illustrate some of the evils of railway ownership of water terminals and exclusive steamship contracts.

When the interests of the port are made subservient

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[1] This sentence may be more readily understood by referring to the subject "Switching", p.42.

[2] Cherington, P.T., _op_. _cit_., p.13.

to interests of the individual railroads, resulting in an uneconomical use of water front facilities, the whole port suffers in competition with other ports.

Excessive port charges. - There is at present an existing feeling among certain steamship officials that port charges here are much higher than at other United States ports. Based on the facts already given in this chapter it is highly probable that a claim of this nature is valid. In determining the correctness of the opinion, however, a great deal depends on just what is meant by "port charges", because of schedule requirements, at overtime and Sunday rates, as has often been the case. "Port charges", as such, include pilotage, tug hire, tonnage tax, customs fees, customs brokerage, watching vessel and quarantine(health inspection). "Cargo charges", as distinguished from, but of equal importance with port charges, comprise wharfage, dockage, watching cargo, tallying and stevedoring.

In regard to this claim of excessive port charges, the Boston Port Authority states:[1]

> "The fact that Boston is now largely a port of call, rather than a terminal port for most overseas vessels, frequently necessitates overtime and Sunday work, with resultant higher costs on these ships, but under like circumstances the charges made at other ports would probably be as high. A recent investigation conducted by us for the purpose of comparing total port charges showed that for a ten thousand-ton steamer entering the ports of Boston, Philadelphia and New York, port charges were nearly identical. As a matter of fact, most

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[1] Boston Port Authority, "Fifth Annual Report", 1934, p. 14.

> of the charges in point are fixed by law and are effective in all United States ports alike. In regard to cargo charges, on a ten thousand-ton vessel, assuming a discharge of five-thousand tons of general cargo at Boston, New York and Philadelphia, any advantage, from point of view of the steamship company, is with Boston. From the point of view of the consignee, this is not always true, largely because of certain situations outside of the direct scope of cargo charges."

The unfavorable circumstances mentioned in this chapter which operate against the commerce of this port minimize Boston's geographical advantage of being nearer to European ports in comparison with other United States ports. Other things being equal, Boston would have the advantage of the short haul for interior freight and would capture ocean shipping, but it is more economical for shippers to use the longer water route through the competitive ports when the railroad haul, which is more expensive per ton-mile, can be shortened thereby. In other words, as water transportation is more economical than rail or land transportation, "the shorter the rail haul and the longer the water haul over the entire distance from point of origin to the point of destination, the greater the economic efficiency."[1] In practice it is the freight rate, not the distance, that makes the difference to the shipper. With rail rates the same from the West to New York as they are to Boston it is immaterial through which port his freight is routed, provided, first, that the through rate to the final destination overseas is the same from each port; and second, that

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[1] MacElwee, R.S., "Port and Terminal Facilities," McGraw-Hill Book Company, 1918, p. 229.

the service from the one port is as frequent as from the other. It also makes comparatively little difference to a cargo-carrying ocean steamship if it must travel several hundred miles farther or not, provided, in going the extra distance, that lower expenses are incurred in port, even if only a few cents a ton, and that better connections may be had with the interior.

H. Measures to improve commercial activity at the port.

Facing a serious loss of the vital sustenance of trade, public authorities and private interests have made unusual efforts to stay the receding tide. The larger purposes underlying the suggestions made, are, to get freight and passengers moving through the port in both ways. More specifically, the aims are to attract grain and other food products from Canada and the West; to recover for Boston the half million or more tons of New England manufactures that are sent every year to New York for shipment; to keep open at easy rates, with good service, the rail and water lines essential for the reciprocal flow of raw materials and finished goods.

The remedy for the present situation apparently embraces two distinct lines of work. One is keeping careful watch on the rate situation, and the other is putting forth every effort to turn the facilities of the harbor to best account.

The Boston Port Authority is working under a definitely correlated program which seeks on the one hand to deal with the details of present situations, and on the other hand to

build a foundation for logical future development of the port. It has interfered and proposes to interfere with private enterprise as little as possible in the conduct of business by that enterprise. It does propose to encourage and assist Boston, New England and other enterprise in the use of and development of the port by the bringing about of satisfactory rate and other conditions which will enable business to establish itself here on a fair competitive basis with other ports. The creation of a greater belief in the port, an upbuilding of morale, perhaps, can - granted relief from artificial handicaps such as unfair rate structures and discriminatory practices by the railroads at New York and other ports, for which the Port Authority is constantly striving - go far towards attracting to the port that keen initiative, business courage and judgment which in other days made it famous. In the meantime, the fact that Boston is in the midst of a struggle for its very existence as a major seaport, must be recognized by the whole of the New England community, and dealt with accordingly.

Improvement of the rate situation. - The rate situation is referred to as "the most important and far-reaching matter to date", by those working in the interest of the port. While all previous attempts to have the situation altered so as to be more favorable to Boston have failed temporarily, the effort to accomplish this purpose is being continued with unabated vigor at this time. The far-reaching effect of the operation of the rail differentials on the country as a whole

is indicated in the following statement:[1]

> "While the issue is directly between the ports of Boston and New York, it is not alone rivalry between the two ports for a rich carrying trade, but a question, indeed, of the greatest bearing upon the future well-being of the United States. It is becoming generally recognized that too much concentration of business in New York is detrimental not only to other ports, Boston included, but to the country at large. Boston is not seeking to attain for itself more than its legitimate share of business, but is very urgent in its claim for such business as ought to be attracted to it and which would be attracted to it were it not for artificial barriers imposed by the rate situation, particularly in and about the harbor of New York. The fact that recent reports show about 65 per cent of New England exports are passing through New York is, in itself, sufficient to cause Boston and New England to desire an overhauling and remedying of the existing situation."

The differential rates absolutely are not so great, but they are very effective when applied to a low class commodity, such as grain, which is sensitive to rate differences.

At this point a question arises as to whether the abolition of adverse rail differentials would actually result in an increase in the gross business of the port to the extent expected. No doubt, the commodity which would be influenced most by a change in the existing freight rates would be grain, and admittedly this item constitutes one of the chief requisites for the maintenance of a satisfactory export business out of Boston. It must be borne in mind, however, that the grain export business has undergone material changes

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[1] Boston Port Authority, "Third Annual Report," 1932, p.7.

in recent years. This fact is brought out in the following statement:[1]

> "The development of several Gulf ports has served to provide more satisfactory outlets than previously existed for much of the American grain originating in the chief producing sections of the Middle West. Similarly, cheap water transportation on the Great Lakes, together with favorable Canadian railroad and St. Lawrence Canal rates, have tended to divert more and more of the grain from the northwestern states and Western Canada to Montreal until that port has become the greatest grain exporting seaport on the Atlantic seaboard. . . . By now using the Welland Canal, lake carriers are able to reach a point on the river that is only slightly more than a hundred miles from Montreal, and it is evident that the amount of export grain handled at that port will be limited only by its capacity to care for the same."

Under these circumstances it would appear that such grain as may be induced to move via Boston and the remaining North Atlantic ports will require some special consideration other than is likely to result merely from the establishment of uniform rates to this port.

"Devlin Plan". - A proposal under the above heading was submitted recently to the Port Authority by Philadelphia interests which in effect invoked the principle of port equalization and suggests that it be brought about not by equalizing rail rates, but absorption of port differentials by steamship lines. Uniform through rates, in brief, are sought. Of course, this is what Boston is working for. The following proposition is expected to be placed before the

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[1] Gow, C.R., "Special Report on the Future Development of the Railroad and Steamship Terminals of Boston", 1926, p.26.

steamship lines at an early date:[1]

> "The North Atlantic Port and Maritime representatives join in asking conference steamship lines to grant in their regulations, to any individual line serving a North Atlantic port, the privilege of absorbing any adverse inland rail differential up to the limit of three cents per hundred pounds, which is the prevailing standard all-rail differential between the ports of Baltimore and Norfolk on the one hand, and Boston and New York on the other. This privilege to apply to export freight originating in differential territory* and to apply also on import traffic having destination in differential territory. The absorptions would apply to any traffic subject to port differential relationships."

This plan is similar to that now governing intercoastal lines. The intercoastal absorption rule is confined to carloads, but the Devlin Plan is not necessarily so confined.

Further development of passenger business. - As an alternative toward offsetting the effect of the differential rates on the freight business of the port, it is suggested that a greater development of passenger business here would change many indirect sailings to direct, which could not possibly be secured in the same instances on freight considerations alone. So far as both inland and ocean passenger rates are concerned, Boston is better situated for passenger travel

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[1] Boston Port Authority, "Fifth Annual Report," 1934, p.18.

*Differential territory, or territory to which the fixed rate differences apply, may be defined to include territory west of a line running west of Buffalo and east of Pittsburgh, Parkersburg and Wheeling; south of the Great Lakes and a line drawn from Chicago to Dubuque; north of the Ohio River; and east of the Mississippi River.

than the other United States outports. The shorter ocean distance to European ports gives it a controlling advantage in this respect.

In view of the fact that many lines in the North Atlantic trade earn as much as seven-eighths of their net from passenger traffic[1], it shows just how important this branch of trade is to them. The main reason for this is that the comparatively few lines built to carry passengers are not subject to the competition of tramp steamers, which are called in if freight liners make their rates high, and whose search for employment in dull times forces ocean freight rates low. The passenger carriers combine and, year in and year out, maintain passenger rates at remunerative levels. The profitable carrier in the North Atlantic trade, it is claimed, is the large combination freight-and-passenger steamer, which makes money from passenger travel in the summer when freights are scarce, and from freight traffic in the winter when passengers are not moving. If Boston can demonstrate its ability to supply passengers for these combination freight-and-passenger liners it will show itself capable of supporting the most profitable type of vessel. Such a vessel supplied with passenger earnings can afford to take lower ocean rates, and so absorb the inland differential which the Devlin Plan, previously referred to, proposes.

The Port Authority is making collaborated efforts to

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[1] Clapp, E.J., op. cit. P.128.

increase the passenger business under the following theory:[1]

> "If a port encourages and invites passenger traffic - as it must do in order to gain and hold valuable business it should be adequately prepared to render proper service. The passenger traffic presents entirely different problems of terminal construction and operation from those governing freight traffic. Where large numbers of passengers are involved, the question of convenience and safety are paramount.....The valuable influence which passenger traffic exerts in the upbuilding of freight business and in advertising the port, is of such importance that port authorities should no longer hesitate in taking action which will ensure safety and convenience to all passengers using their port."

Publicity. A moderate advertising program has been pursued by the port officials during the past three years in an effort to increase the passenger business at Boston. Activity along this line, for example, has consisted of issuing passenger sailing lists covering all inward and outward transatlantic sailings of the port. The reception of these lists in tourist agencies, aboard ships and by the public has been such as to make their publication and distribution a regular part of the publicity work. Attractive advertisements as to the facilities offered in the port and as to the imperative need of its use by New England travelers and shippers have been inserted in programs of the legitimate theaters in Boston. A book issued in collaboration with the United States Bureau of Foreign and Domestic Commerce, entitled "Outbound Shipping Services from the Port of Boston,"

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[1] A paper read before the American Association of Port Authorities by the Harbor Engineer of the City of Los Angeles, 1932.

has been given broad distribution, not only in Boston but elsewhere in New England. This pamphlet deals particularly with freight services and facilities and, as in the case of passenger sailing lists, will be distributed regularly. Frequent conferences have been held with representatives of the Press to acquaint the latter with current activities and determined policies of the Port Authority. In 1933, however, that Board concentrated its major publicity work abroad. Under a comprehensive itinerary covering Italy, Spain, Portugal, France, England, Belgium, Holland, Denmark, Norway, and Sweden, a staff member with special qualifications for foreign contact work, spent from May until November in these countries as an advocate for the port. Printed matter in various languages was distributed in strategic quarters, and interviews or conferences with over seven hundred people held. About twenty thousand miles of travel was involved. As a result of this work the port officials believe that important avenues of future trade and passenger traffic have been opened for Boston.

Abolition of free dockage. - The railroads at this port have at times been subject to severe criticism for maintaining their system of free dockage, which has already been referred to, to the detriment of competing private terminals. It is alleged that an undue burden is thereby imposed upon the transportation costs of the community by the necessary absorption in railroad charges of the great expense incident to the operation of these piers.

It is difficult to see how the railroads can act otherwise and continue to secure the through traffic which is generally deemed desirable for the welfare of the port. The same practice has, of necessity, been followed by the Commonwealth in operation of Pier No. 5. Were they to establish charges for berthage, this through freight would be bound to seek some other Atlantic port where free dockage is open to it. Under these circumstances, not only would the railroad piers lose the business, but their private competitors at this port would also fail to benefit in any manner. There is no such argument in support of free dockage for coastwise commerce other than purely local competition for the business. This freight comes to the port because it is consigned here, and therefore could not be diverted to another port in any event. As has been mentioned previously, all the Atlantic coastwise lines using the port maintain and operate local piers at their own expense. The intercoastal lines, however, have been able to avoid this terminal cost by using Commonwealth Pier No. 5 at South Boston. It is true that various charges are collected from these vessels in an indirect nature, but the question may well be asked why similar facilities should not be provided free for all the coastwise lines of the port. The greater proportion of the freight handled by these vessels is trucked to and from the pier, hence the business is not attractive to railroad owned terminals.

However uneconomic and unbusinesslike free dockage

may be it seems reasonably obvious that the best possibility for its elimination lies in joint action by the railroads of all the Atlantic seaports, but it is unlikely that they would be willing to do this for reasons already stated.

If the railroads do not take the action voluntarily or as a concession to the public there is still the possibility of proceeding against them through the Interstate Commerce Commission to bring it about. One effective method of attack would be for some individual stockholder or group of stockholders of these railroads, to raise through the Interstate Commerce Commission, the question of the right of the management of the roads to give away free use of these valuable properties which ought to be yielding revenue to the roads. It seems highly probable that a perfectly good case could be made out if action were taken up jointly by Boston and by the two differential ports of Philadelphia and Baltimore, where the same practice is in effect.

Establishment of free lighterage. - The establishment of free lighterage, using the term in the same sense in which it is employed in New York, would give the railroads of Boston an opportunity, for a comparatively small outlay, to serve the port to great advantage. In the past they have offered the following three principal objections to undertaking this work: (1) the cost of installation; (2) the cost of operation; and (3) the lack of possible returns.

The estimated cost of installing the equipment in Boston which would make possible free lighterage and put the

entire waterfront on the basis of competitive territory would be extremely small as compared with the benefits to be gained by both the city and by the railroads from increased commercial activity. Mr. Cherington, who has estimated the cost of this undertaking, says:[1]

> "The initial outfit would include a very small quantity of equipment, possibly three 12-car floats at an estimated cost of $30,000. each, and twelve lighters at a cost of $12,000. each, which would be the principal items of outlay. Two tugs at $35,000. each might be added as necessary features if suitable arrangements could not be made for use of tugs already in the harbor. The providing of equipment, therefore, need not mean an outlay much over $300,000. Adding $10,000. for such necessary re-arrangement of tracks as might be necessary, the initial outlay would still be less than $250,000."

While these figures do not apply strictly at the present time, they indicate what would be a reasonable outlay for the installation of an equipment which would make it possible to offer to industrial,terminal and warehouse enterprises free lighterage anywhere on the Boston waterfront. This would mean that all the Boston waterfront would for this comparatively small outlay be put on a basis of location on all three railroads in competitive territory. Further outlay would, no doubt, be necessary in the future, but only as the traffic grew to proportions making it necessary. The traffic would presumably be able to support the new equipment thus installed. In making this statement about initial cost it is, of course, necessary to take the same ground that is universally taken in the construction of any

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[1] Cherington, P.T., "The Port of Boston," 1917, p.29.

new transportation enterprise. Presumably the traffic does not actually exist at the port at present, but there is reasonable ground for expecting that, with the facilities once offered, the traffic will develop.

It seems incredible that our railroads, poor as they are,cannot afford to invest the amount necessary to form a lighterage company, the establishment and operation of which would give them equipment for performing much of their present switching at lower than present cost, and with greater efficiency. When we remember that this is one action which might save one of the chief points on these lines from further decline as a commercial seaport. Even if New England roads cannot possibly make this investment, probably the capital could be privately subscribed if the railroads would permit the establishment of a lighterage company not owned by them and grant a flat Boston railroad rate* to the whole waterfront.

Concerning the cost of operation, the second objection raised against the installation of free lighterage at this port, it has been impossible to find accurate figures. Nevertheless, the distances over which it would be necessary to lighter in Boston appear to be far shorter than those in New York. When allowance has been made for the shorter

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*For this rate, no matter from where, a railroad will deliver freight to its own public terminals. In some instances this rate includes a switching charge which is absorbed by the carrying road.

length of time that would be necessary for a shorter lighterage trip and the increased volume of lighterage which could be accomplished here with the same amount of equipment as is used there, it seems probable that the present switching charges applied by the railroads to place freight at various sections of Boston's waterfront, would amply cover the cost of lighterage and yield a satisfactory return for the lighterage service.

Much of the switching and carting now being done in the case of business which is entitled to have the switching charges absorbed would be more economically rendered by lighterage than it is at present, making a saving to the railroads. But the most important argument in favor of the establishment of lighterage under these conditions is the fact that it would open up an enormous amount of entirely new business by making the waterfront more attractive as sights for terminal, warehouse and industrial development than can now be expected. The present transfers would be done more cheaply and much profitable business could be expected to develop. Moreover, conjestion could be more easily avoided at the terminals, and much of the present trucking removed from the crowded streets.

When it comes to a discussion of the returns to the railroads as an objection to their establishment of lighterage, there is no way to prove that for a reasonable length of time in the future the service could not be operated without profit. That, however, is not a valid objection to the undertaking of

a new transportation enterprise. As has already been intimated, there are comparatively few new transportation enterprises which either are expected to or do show profitable returns immediately. If it were necessary for the new undertakings to show such returns, no transportation development would be undertaken.

In the near future the railroads themselves, unless all signs in connection with the future development of the port are misleading, would profit by having the waterfront made more attractive for development under private enterprise. It has been shown that private enterprise offers the only opportunity for such development in Boston, and if it is not undertaken in this way, the problem to increase commercial activity at the port will continue to be serious.

The "Cowie Plan." - Better connections between the different railroad terminals at the waterfront to facilitate interchange of freight has long been recognized as one of the greatest needs at the port of Boston. Many who have studied commercial development of the port advocate an outer belt-line, or connecting railroad, built outside the city limits so that freight destined for export may be interchanged between the railroads before entering the congested area. A most feasible plan designed by Mr. Cowie in 1925,[1] does away entirely with the necessity for a new belt rail-

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[1] Report of the Joint New England Railroad Committee to the Governors of the New England States, June 1925, p.142 and 144.

way outside of Boston, which would be enormously expensive both to build and to operate. It will be found that the plan may be readily understood by referring to a map of the port.

The center of Boston's port activities, Mr. Cowie has pointed out, is where the Charles and Mystic Rivers coming together, make the inner harbor. The old-fashioned wharves along the front of the city proper, which are too short for large steamers, he proposes to fill in to a line drawn along the outer edge of the piers, bulkheading this line so that steamers will come alongside and not enter a slip. Then starting from the terminals of the New Haven Railroad and the Boston & Albany in South Boston, he proceeds with a double track railroad crossing Fort Point channel and thence along the new land created by the filling in of the old wharves, then crossing the Charles to a point where connection is established with the Boston & Maine system, including its connecting lines along the way, then back of the Navy Yard upon a raised structure to the big Mystic Wharf terminal of the Boston & Maine System where rail connection is again established; thence across the Mystic River and so along the waterfront of East Boston where there is ample opportunity for as many large steamers as the port may require for many years. Then along the base of the present East Boston piers of the Boston and Albany Railroad to a connection with the Grand Junction Railway and picking up any traffic which may come by the Eastern Division of the

Boston & Maine directly to East Boston, and establishing connection with the present freight yard of the Boston & Albany and the East Boston freight yard of the Boston & Maine System on the eastern side of East Boston.

It can be readily seen that Mr. Cowie's plan joins all the existing rail heads of the railroads serving Boston; it permits a car to be shifted almost in a few minutes from any rail head to the existing grain elevators, or, if containing merchandise, into receiving warehouses directly opposite the desired steamer. It brings the business of the port close to the city with which it is necessarily related.

St. Lawrence Tidewater Project.[1]- In concluding this work it seems logical to refer to the Treaty between the United States and Canada, signed in July 1932, for a deep-sea channel from the Atlantic Ocean through the St. Lawrence in the Great Lakes, for the important bearing it will have on the cities situated along the Atlantic Seaboard, Boston in particular. It has yet to be ratified by the United States Senate. The Board is opposed to the consummation of this project, and a brief statement of its position is found in a telegram sent to the Special Senate Committee holding hearings on the ratification:[2]

> "PLEASE RECORD CITY OF BOSTON AND BOSTON PORT AUTHORITY OPPOSED TO RATIFICATION SAINT LAWRENCE TREATY - BELIEVE CONSUMMATION PROJECT SERIOUS

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[1] The Senate has since rejected this treaty. Ratification was refused by a vote of 42 to 46.

[2] Boston Port Authority,"Fourth Annual Report,"1933, p.14.

> DETRIMENT TO PORT OF BOSTON DUE TO UNQUESTIONABLE ADDITIONAL TONNAGE DIVERSION CANADIAN PORTS - INTERSTATE COMMERCE COMMISSION HAS WELL STATED NO NEED CONSTRUCTION AND OPERATION PARALLEL TRANSPORTATION ROUTES UNTIL CAPACITY IS REACHED - NEW YORK STATE BARGE CANAL AND RAILROADS MIDWEST TO SEABOARD IN EFFECT PARALLEL ROUTES AND HAVE NOT APPROACHED CAPACITY - RESULTING RUINOUS COMPETITION UNFAIR TO PORTS TAXPAYERS TRANSPORTATION INTERESTS AFFECTED WITH DOUBTFUL BENEFITS FARMERS AND OTHERS IN WEST."

The western states, friends and investigators who are actively and energetically promoting this project dwell on generalities when speaking of the "wonderful advantages" to be derived by New England and consequently Boston its chief port, such as: "For every ton diverted to other routes, several tons will be attracted through the general expansion of business."[1] They advance the theory that the interests of New England would be greatly increased through the establishment of steamship routes between lake ports and New England. The question may be raised as to just what they propose to carry in these ships, for bulk cargo and package freight and how much of such business is available.[2]

The New England people have also had put to them, as a reason for supporting the project, the increased industrial expansion that New England would enjoy because of this new water transportation road which would bring(so the western proponents assure them) the raw products to their doors and carry back the finished material at a great saving

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[1] "The St. Lawrence Tidewater Project," by Charles R. Gow, Current Business, Apr.3, 1922, p. 19.

[2] "The Great Lakes - St. Lawrence Waterway Project," from an address delivered before the Boston Chamber of Commerce by Senator T.J. Walsh, Congressional Record - Appendix, Apr.16,1928, p.6826.

of cost through transportation saving. This claim does not carry a great deal of weight here because it is a known fact that in every region where raw materials for New England manufactures are produced, a constant effort is being made to supplant the New England manufacturer.[1] After ably presenting facts and summing up the "wonderful advantages"New England would get through industrial expansion, which should normally increase commercial activity at this port, the Honorable Mr. Nelson of Wisconsin made the following statement in an address published by the Great Lakes-St. Lawrence Tidewater Association back in 1920:[2]

> "....Our country should become more and more industrially decentralized because of the tremendous distances of our transportation hauls. The raw materials should be manufactured into the finished products as far as is practical within its own geographical zone or circle of distribution. In other words, we should not go east with raw materials and then ship them back as finished products...We must reduce carrying charges by a policy of conservation in manufacture and distribution of raw materials into finished products."

Some proponents of the measure make a suggestion as to the manner in which the waterway will be used (in their opinion) to develop the grain business of Boston, for instance, when they state that if the St. Lawrence route is open, much grain will be brought to river ports in lake vessels and stored in elevators for export purposes, and much of the grain will go abroad directly by water from Montreal, but much of it will come to Boston during the seven months

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[1] See page 24, paragraph 2.

[2] "Current Business," op. cit. p.24.

when the St. Lawrence is open and thus furnish this port the bulk cargo which our foreign commerce will require during the five winter months.

It seems that those who hold the above opinion must have lost sight of certain fundamental facts. The total grain elevator capacity of Boston, as has already been mentioned, is about 2,500,000 bushels. Boston has handled through its elevators many times that amount during the five months when the St. Lawrence was closed to navigation. It is difficult to see how the entire amount of grain to be exported through this port during the seven months when navigation is open there could be stored against winter exportation with only the present elevator capacity here. To accomplish this, it would necessitate building additional elevator facilities at an enormous expense, and it cannot be conceived that the railroads, who would be deprived of the business of transporting this grain would keenly support the proposition to that extent.

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